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Nashville's Printing and Publishing Sector: A Historical and Empirical Study and Its Impact Upon the Region

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Of Its Impact Upon the Region

Abstract

Nashville's Printing and Publishing Sector:

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Western Honors Program

Senior Thesis

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Nashville's Printing and Publishing Sector:

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Of Its Impact Upon the Region

Abstract

Urban economics, like all other fields of economics, is a science. A region must be identified, then dissected and analyzed, if one is to determine what gives it life. A study of Nashville, for example, reveals that it depends upon far more than country music for its economic survival. Indeed, the city is a complex organism made of components that must complement each other to insure their existence. One of the most important aspects of Nashville's stability is its locale. Its centralized location, much like a heart, is serviced by arteries of railroads, highways, airways, and river routes. Because of this, Nashville is an ideal region for industrial sectors highly dependent upon transportation. Printing and publishing is one such sector. Throughout Nashville's history, printing and publishing has been one of the most important factors in its development. Historical data confirm its longevity, but more importantly, the tools of urban economics give measure to its substantial financial impact upon the region.

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Growth Rate of Employment 30

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Since the creation of the Grand Ole Opry, Nashville has adopted itself as "Music City, U.S.A." This promotion has successfully transformed its musical heritage into a thriving industry. One of the most important factors contributing to Nashville's musical industry is its ability to appeal to thousands of tourists and music want-to-be's annually. Like Detroit's cars and Pittsburgh's steel, industries that bring money in from outside sources are important to the economic stability of a metropolitan area. Economists identify these industries as a region's export base. Nashville, of course, does not rely solely on steel guitars and rhinestone-studded shirts for its economic prosperity. Like most other cities its size, Nashville owes much of its livability to a well-developed manufacturing base.

Particular industries are often associated with certain regions or municipalities. For example, it's difficult to discuss Detroit without mentioning cars. Likewise, Pittsburgh has historically been characterized as the home of steel. The fact that these industries are associated with particular regions is not by coincidence. Once Detroit and Pittsburgh discovered their comparative advantages for a particular industry, they successfully promoted the advantages to their economic well-being. However, to view these regions as simply car or steel-producing economies would ignore a vast array of other industries participating within their communities. This is also true in an area such as Nashville.

Since the creation of the Grand Ole Opry, Nashville has promoted itself as "Music City, U.S.A." This promotion has successfully transformed its musical heritage into a thriving industry. One of the most important factors contributing to Nashville's musical industry is its ability to appeal to thousands of tourists and music want-to-be's annually. Like Detroit's cars and Pittsburgh's steel, industries that bring money in from outside sources are important to the economic stability of a metropolitan area. Economists identify these industries as a region's export base. Nashville, of course, does not rely solely on steel guitars and rhinestone-studded suits for its economic prosperity. Like most other cities its size, Nashville owes much of its livelihood to a well-developed manufacturing base.

Nashville's manufacturing sector accounts for 55% of the region's export base (Eff). Though it is highly diverse, a large portion of this sector is involved in one area of manufacturing: printing and publishing. According to the Department of Economic and Community Development, printing and publishing industries are Tennessee's sixth-largest manufacturing producer (Summer 26). In 1990 Nashville's involvement in printing and publishing represented 15% of its manufacturing employment and 3% of its total employment. This concentration is twice the national average (Esler 63), the largest such concentration in the South, and one of the nation's ten largest (Summer 26).

Unlike Nashville's music industry, this concentration is not a modern development. Printing and publishing has been a part of the city throughout its history. In fact, historical and empirical evidence indicates that it has been one the most important factors in Nashville's economic advancement.

A Historical Perspective of Nashville's Printing Industry

Nashville's link to the printing industry began just three and a half years after Tennessee became a state. On February 11, 1799, John McLaughlin established the first Nashville paper, the *Rights Of Man, Or, Nashville Intelligencer* (Sears 24). Tennessee's first printer, George Roulstone, had started the *Knoxville Gazette* on November 5, 1791, a little over seven years before (19). Like Roulstone's, McLaughlin's main focus was political news. In

April of 1799, he made a new start with the shortened title *Nashville Intelligencer*. Before the summer was over, however, the *Intelligencer* and McLaughlin were history (25).

Nashville's next printing endeavor was the *Tennessee Gazette*. This was established in January 1800 by Benjamin J. Bradford of Kentucky, who in 1795 had published the *Kentucky Journal* (25). Bradford enjoyed a monopoly until 1805, when Thomas Eastin started the *Impartial Review, Or Cumberland Depository* (37). Bradford discontinued the *Tennessee Gazette* the following year, but two years later he reentered Nashville's print market with the *Clarion*. This was subsequently sold to his brother James Bradford and cousin Thomas Bradford (25). In 1812, Benjamin Bradford once again started a paper, the *Nashville Examiner*, which was taken over by his widow, Rebecca Bradford. J. R. Ruble & Co. published the paper for her (26).

In July 1809 Thomas Bradford started a highly successful magazine, *The Museum*. As far as magazines published in the west, its popularity was surpassed only by the *Kentucky Medley*, a publication put out by Daniel Bradford. In the same year, Thomas Bradford also published a book, *A Revisal Of All The Public Acts Of The State Of North Carolina And Of The State Of Tennessee*, authored by a well-known jurist, John Haywood. The next year Bradford printed Haywood's *Duty and Authority Of Justices Of The Peace* (27).

With the inclusion of magazine and book printing, the Bradfords were making Nashville into an important center for

the expansion of the printed word into the new nation's western territory. It is interesting to note that the widow of George Roulstone, Tennessee's first printer, settled in Nashville, where her descendants married into the Bradford families. Thus, the two most prominent pioneer printing families of Tennessee and Kentucky were combined (26).

Although Nashville and Knoxville were the important centers for printing, other areas had limited success. Jonesboro had a press between 1801 and 1804. In 1808, William Moore moved a press, purchased from George Roulstone's widow, from Knoxville to Carthage. His paper lasted until 1819. Clarksville and Columbia established their first papers in 1810. Murfreesboro's first paper began in 1814, and the following year, William L. Barry published the *Tennessean* in Gallatin. Rogersville, the actual site for George Roulstone's *Knoxville Gazette* until Knoxville was actually established, started a paper in 1814. Memphis did not receive a paper until 1826 (28-34).

Overall, there were fifteen to twenty areas that the press had actually reached by 1830. Of those, Knoxville, Jonesboro, and Rogersville were the only ones in the eastern region of Tennessee. Memphis was the only printing center in the western third of the state (34). Before 1810, three times as much print was being produced in Knoxville as was in Nashville. From 1810 to 1830, Nashville's printing production grew to twice the size of Knoxville's. Together, the cities' output was four times that of all the other

printing points combined (40). Obviously, Nashville, as well as its surrounding area, was becoming Tennessee's center for print.

Nashville's early growth as a printing capital can be linked to several factors. Tennessee was a developing state, filled with a largely diverse people. Printers saw opportunity in its growing commerce and maturing political attitudes. These attributes were perfect for advertisements and editorials, the mainstays of any newspaper. Nashville's development was no exception. Set on the Cumberland River and situated near the center of the state, it was an ideal spot for a state capital. Since most early publications dealt with governmental matters, its selection in 1843 helped to insure the development and growth of printing within the region (McMurtrie 18).

Technology was also a factor. George Roulstone had printed Tennessee's first book, *The Laws Of Tennessee*, in Knoxville in 1803 (Sears 22). And, as stated earlier, Thomas Bradford had published books as well as a magazine in Nashville. However, with the printing process as primitive as it was, these were the exception, not the norm. Type setting and book binding were difficult since they had to be done by hand. As Roulstone's preface to his *The Laws of Tennessee* states, "The present undertaking has been very laborious to the editor---the stock for carrying on which being brought many hundred miles at great expense" (McMurtrie 20). Presses at that time were small, about the size of a

chest of drawers (McMurtrie 20). This size helped in the geographical expansion of printing throughout Tennessee, but the process hindered the speedy turnout of news and the development of different types of publications. With the rapid changes taking place within Tennessee's government, printers needed to be near the center of legislation. Thus, as the population and governmental activities moved west from Knoxville, so too did the presses.

By the first part of the 1860s Nashville was supporting five different newspapers a week, although in March of 1862 Nashville's prominence as a printing capital was put to a test by the Civil War. After the fall of Fort Donelson to the Union Army, all unauthorized print was halted. For a while newspapers from other regions were smuggled into the city. Many of these came from presses that had been dismantled and moved to locations still under Confederate control. As the war progressed, though, this activity was eventually put to an end (Crabb 242).

Newspapers were not the only publications hindered by the Civil War. At the time of Union occupation, Nashville was producing several different types of publications, some of which were *Southern Homestead*, a weekly agricultural and family paper; *Temperance And Literary Journal*, a monthly from the office of the *Southern Homestead*; *Nashville Monthly Record of Natural And Physical Science*; a monthly entitled *Nashville Journal Of Medicine And Surgery* (Woolridge 357-8); and the *Southern Ladies Companion*, a monthly "devoted to the

interest of ladies." There were also two music publishing houses, Benson's and McClure's (Crabb 238).

Religious print, another type of publication interrupted by the war, was of particular importance to Nashville's printing industry. Throughout America, the 1800s were a period of religious expansion known as the "Second Great Awakening." During this period Protestantism grew to record proportions as evangelists carried popular religion to rural areas via camp meetings, circuit riders, and voluntary associations. As religious fervor grew, so too did the need for religious publications. Scores of religious societies started Sunday schools, distributed religious pamphlets, sold religious newspapers and journals, supported charitable causes, passed out hymnals, established schools and colleges, and organized churches and revivals. All of these activities required massive numbers of Bibles, hymn books, Sunday school texts, and periodicals to maintain communication with far-flung preachers, missionaries, and laymen (Pitt 312-4).

The first religious publication for Nashville came as early as 1814, when Barton W. Stone produced *An Address To The Christian Churches Of Kentucky, Tennessee, And Ohio* (Crabb 230). From that time, until the Civil War, several religious publications were produced in Nashville. Among these were *Nashville Christian Advocate*, a weekly denominational paper; *Sunday-School Visitor*, a weekly juvenile paper; *Banner of Peace*, a weekly by the Cumberland Presbyterian Church; *Baptist Standard*, a weekly by the

Missionary Baptists; *Tennessee Baptist*, a weekly from the South-western Publishing House; *Home Circle*, a monthly Methodist publication; *The Children's Monthly Book*, from the South-western Publishing House; *Quarterly Review*, a Methodist publication; and *Southern Baptist Review*, a quarterly (Woolridge 357-8).

Despite the steady stream of religious material flowing out of Nashville, the volume of religious print was limited because churches with potentially large orders had no centralized leadership. However, as churches gained stability, they also found the need to give permanence to their religious publications. By 1850 the Methodists and Baptists had surged ahead of Congregationalists and Presbyterians to become the largest Protestant denominations in the United States (Pitt, 316). Their decisions to locate printing establishments in Nashville invigorated an already growing industry.

In 1854 the Methodist Episcopal Church South voted to establish a publishing and printing house and named Nashville as its location. Just four years later, located in an old sugar warehouse in the Public Square of Nashville, the House was responsible for 322 books and more than 400 religious tracts. When the original building was destroyed by fire, it was rebuilt to include seven stories serviced by a steam elevator. In 1890 the Methodist press was producing a huge stream of periodicals reaching nearly 1.2 million subscribers (Doyle, *The New South* 50).

In 1891 the Sunday schools in Southern Baptist churches had grown to the point that the Southern Baptist Convention elected to locate their Sunday-School Board in Nashville. Then, after the successful publication of their first book, a biography of the missionary Matthew Tyson Yates, the Southern Baptist Convention gave the Board the authority to publish material other than Sunday-school literature. Finally, in 1910, the Convention authorized the establishment of a publishing house, the Broadman Press, in Nashville (Crabb 241).

Nashville's religious print was not restricted to the Methodists and Baptists. In 1866 the Gospel Advocate Publishing Company was organized by David Lipscomb of the Church of Christ. It expanded in the 1880s and printed four periodicals, in addition to its popular interdenominational hymn book. In 1889 the Cumberland Presbyterian Board of Publishers made Nashville its permanent home. It erected its press on Cherry Street (now Fourth Avenue) near Church. In 1896, Dr. Richard H. Boyd established the National Baptist Publishing Board for the black churches. Other religious presses followed, locating their homes in Nashville. These included the African Methodists, Pentecostal Mission, and the Seventh Day Adventists. By 1908 some \$5 million had been invested in Nashville's publishing industry, making it the fifth largest publishing center in the country (Doyle, *The New South* 50).

Similar to the boost of the "Second Great Awakening,"

the fear of "godless communism" created by the Cold War after World War II influenced people to turn to patriotic Christianity to preserve the "American way of life." Nashville, with its high concentration of churches (more than any other city its size), church-sponsored colleges, and religious printing establishments prospered from this religious resurgence. The number of missionaries and religious periodicals emanating from Nashville, to all parts of the world, inspired such titles as "Buckle of the Bible Belt" and "Protestant Vatican." James W. Carty, Jr. even entitled one of his books *Nashville As A World Religious Center* (Doyle, *Since The 1920s* 173-4).

By 1957 the Baptists' Broadman Press had grown to the point of producing over 73 million copies of seventy-nine periodicals, over 14 million tracts, 1.6 million volumes of first-edition books, and 2.3 million volumes of reprinted books. From their Nashville headquarters, the Sunday-School Board also directed fifty bookstores, all dealing primarily in Broadman books. Likewise, in 1958 the Methodist Publishing House was responsible for 4 million books each year and thirty-four periodicals with a total circulation of 91 million. That same year, the Sunday School Publishing Board established by the National Baptists Convention put out periodicals with a circulation of 3.6 million. The religious publishing business in Nashville claimed over \$100 million in annual sales in 1976. By the early 1980s it employed over 10,000 people with a payroll over \$68 million (Doyle, *Since*

The 1920s, 175).

But Nashville should not be characterized as a printing and publishing center for only religious material. What influenced several religious printers to locate in the Nashville area attracted secular printers as well, location being a primary factor. Nashville is within a day's drive of half the nation's population. It sits at a transportation hub with three U.S. Interstates and adequate airport, railroad, and river port facilities. Also, it is merely four hours away from Memphis, the shipping center for Federal Express (Esler 63). It has relatively cheap labor and transportation costs, as well as the cumulative advantages that the city's publishing industry acquired because of ready access to paper, supplies, and a large pool of skilled technical labor. Much like the city's churches, there is a extensive concentration of colleges within the area. Likewise, historians, novelist, poets, and textbook writers have always been a part of Nashville's history.

Nashville's advantages for printing and publishing have not gone unnoticed. Ingram Book Company, one of the nation's largest wholesale trade booksellers, cites Nashville as one of its locations. Major printing plants include Arcata Baird Ward (12 press lines), Rand McNally (13 presses), and Mid-South Press (13 units). Nashville's outlying areas have also benefited. The world's number-one printer, R.R. Donnelley and Sons, has a plant in Gallatin. Qubecor, the nation's number-two printer, has operations in Dickson (Esler 66).

An Empirical Perspective of Nashville's Printing Industry

Overall, Nashville's printing and publishing industry has changed considerably since World War II. In 1959, *County Business Patterns for the State of Tennessee* reports Davidson County as having 87 establishments devoted to printing and publishing (see Table 1). These consist of 8 newspaper units, 9 periodical units, 7 units devoted to the publishing and printing of books, 38 commercial printers, 4 units for the manufacture of manifold business forms, 4 bookbinding and related industries, and 10 printing trade services. By 1989 the number of units within the industry shows an overall growth of 214% for a total of 274 units. Newspapers grows 112% to 17 reporting units, periodicals grows 66% to 15 units, book publishing grows 200% to 21 units, commercial

TABLE 1 =====
PRINTING and PUBLISHING
TYPE by NUMBER of UNITS
Davidson County

Type	'59	'64	'69	'74	'79	'84	'89
NEWSPAPERS	8	8	7	8	8	14	17
PERIODICALS	9	18	11	11	13	14	15
BOOKS	7	5	9	10	18	20	21
COMMERCIAL	38	49	51	75	80	109	120
BUSINESS FORMS	4	-	-	-	-	2	4
BOOKBINDING	4	4	8	8	13	11	10
TRADE SERVICES	10	18	15	22	21	24	33
MISCELLANEOUS	-	23	25	41	31	41	35
TOTAL	87	127	131	187	187	249	274

printing realizes a gain of 215% for a total of 120 units, bookbinding grows 150% to 10 units, and printing trade services grows 230% to 33 units. The only sector that doesn't show overall growth is the manufacture of manifold business forms. However, another segment, miscellaneous publishing, which shows a total of 25 units in 1964, gained 40% by 1989 for a total of 35 units.

Despite the overall growth, the composition of Nashville's printing and publishing industry is not stable. In order to eliminate the bias of introducing the category of miscellaneous publishing after 1959, one may view composition in two different ways. First, if miscellaneous publishing is eliminated, all years may be considered under 1959 conditions (see Table 2). This method shows a sharp decline in newspapers and books from 1959 to 1964, while periodicals and trade services show distinct increases within the same period. Throughout the sample time-frame, commercial printing shows almost steady growth while periodicals decreases steadily after 1964. Books and bookbinding mirror each other in growth and decline from 1959 through 1989.

A second method ignores the periods before the introduction of miscellaneous publishing (see Table 3). This model shows similar results in growth and decline after 1964 as the first model. These figures, however, are the actual percentages for each category within Nashville's overall printing and publishing industries for each year depicted.

While it is important to look for growth in the number

TABLE 2 =====
PRINTING and PUBLISHING

PRINTING and PUBLISHING TYPE as PERCENTAGE of ALL UNITS Davidson County							
Type	'59	'64	'69	'74	'79	'84	'89
NEWSPAPERS	9.2	7.7	6.6	5.5	5.1	6.7	7.1
PERIODICALS	10.3	17.3	10.4	7.5	8.3	6.7	6.3
BOOKS	8.0	4.8	8.5	6.8	11.5	9.6	8.8
COMMERCIAL	43.7	47.1	48.1	51.4	51.3	52.4	50.2
BUSINESS FORMS	4.6	-	-	-	-	1.0	1.7
BOOKBINDING	4.6	3.8	7.5	5.5	8.3	5.3	4.2
TRADE SERVICES	11.5	17.3	14.2	15.1	13.5	11.5	13.8
TOTAL UNITS	87	104	106	146	156	208	239

(B) - figures withheld to avoid data for individual companies
(C) - 100 to 249 (F) - 250 to 499 (G) - 500 to 2499

TABLE 3 =====
PRINTING and PUBLISHING
TYPE as PERCENTAGE of ALL UNITS
Davidson County

Type	'59	'64	'69	'74	'79	'84	'89
NEWSPAPERS	-	6.3	5.3	4.3	4.3	5.6	6.2
PERIODICALS	-	14.2	8.4	5.9	7.0	5.6	5.5
BOOKS	-	3.9	6.9	5.3	9.6	8.0	7.7
COMMERCIAL	-	38.6	38.9	40.1	42.8	43.8	43.8
BUSINESS FORMS	-	-	-	-	-	.8	1.5
BOOKBINDING	-	3.2	6.1	4.3	7.0	4.4	3.7
TRADE SERVICES	-	14.2	11.5	11.8	11.2	9.6	12.0
MISCELLANEOUS	-	18.1	19.0	21.9	16.6	16.5	12.8
TOTAL UNITS	-	127	131	187	187	249	274

establishments declines sharply from 1964 to 1969; employment

TABLE 4 =====

**PRINTING and PUBLISHING
TYPES by NUMBER of EMPLOYEES**
Davidson County

Type	'59	'64	'69	'74	'79	'84	'89
NEWSPAPERS	(D)	(D)	(D)	(G)	(H)	(G)	2116
PERIODICALS	245	488	1330	1829	1760	(G)	536
BOOKS	1224	1362	705	507	971	701	2458
COMMERCIAL	2870	2511	2793	3095	2925	3244	3660
BUSINESS FORMS	(D)	(D)	(D)	(D)	(D)	(E)	(F)
BOOKBINDING	241	136	302	403	793	787	1197
TRADE SERVICES	364	511	537	682	507	629	679
MISCELLANEOUS	-	199	276	(F)	(E)	188	(E)
TOTAL	6054	6335	7156	8015	9834	9844	11213

(D) - figures withheld to avoid data for individual companies

(E) - 100 to 249 (F) - 250 to 499 (G) - 1000 to 2499

(H) - 2500 to 4999

of establishments for an industry within a particular economic region, the impact on employment must also be considered. Table 4 details employment by type of establishment for the printing and publishing industry within Davidson County. *Commercial printing* is prominent throughout the time-frame with *trade services* and *miscellaneous publishing* showing steady growth, except in 1979. *Books* declines after 1964 but has a sharp increase for the period 1984 to 1989. *Bookbinding* shows a similar increase from 1984 to 1989 after having strong growth from 1959 to 1984. *Periodicals* has an unusual pattern. Though the number of establishments declines sharply from 1964 to 1969, employment

TABLE 5

PERIODICALS
AVERAGE FIRST QUARTER EMPLOYMENT (number)
Davidson County

	'59	'64	'69	'74	'79	'84	'89
Total Employment	245	488	1330	1829	1760	(G)	536
Total Units	9	18	11	11	13	14	15
Avg. Employment	27.2	27.1	120.9	166.3	135.4	-	35.7
(G) - 1000 to 2499							

TABLE 6

PRINTING and PUBLISHING
AVERAGE FIRST QUARTER EMPLOYMENT (number)
Davidson County

	'59	'64	'69	'74	'79	'84	'89
Total Employment	6054	6335	7156	8015	9834	9844	11213
Total Units	87	127	131	187	187	249	274
Avg. Employment	69.6	50.0	54.6	42.9	52.6	39.5	40.9

risers dramatically (see Table 5). An opposite shift occurs from 1979 to 1989. This pattern does not fit the overall model for average employment within Nashville's printing and publishing industry (see Table 6).

Though total average employment declines from 1959 to 1989, the decline is not steady. The period of 1964 to 1969 has a moderate increase with a sharp increase occurring between 1974 and 1979. Sharp declines occur from 1969 to 1974 and 1979 to 1984.

These fluctuations are mirrored by the growth of small to medium firms within Nashville's printing industry (see Table 7). In the periods of sharp decline in average

TABLE 7 =====

PRINTING and PUBLISHING
NUMBER of UNITS by EMPLOYMENT (91,000s)
Davidson County

Employees	'59	'64	'69	'74	'79	'84	'89
1 to 19	53	92	89	145	135	197	208
20 to 49	9	12	14	10	20	22	33
50 to 99	10	9	13	16	15	14	13
100 to 249	11	10	11	11	10	9	11
250 to 500	-	-	-	1	4	4	5
500 or more	4	4	4	4	3	3	4
TOTAL	87	127	131	187	187	249	274

employment the growth of small firms (1 to 19 employees) shows a distinct increase. In the period 1974 to 1979, in which there is a sharp increase, the change can be explained by two factors. First, there is a moderate shift from small firms to the next level of employment (20 to 49) as well as a sharp increase in firms with 250 to 500 employees. Second, while overall employment in printing and publishing increases 20%, the number of reporting units remains the same.

Like employment, payroll for printing and publishing grows from the period 1959 to 1989 (see Table 8). The growth is rather steady with the biggest increases occurring between 1969 to 1974 and 1979 to 1984.

All the tabulated data thus far have dealt with the printing and publishing industry within Davidson County only. Since World War II, Nashville has grown such that it can no longer be considered an economic entity held within the

TABLE 8 =====
PRINTING and PUBLISHING
AVERAGE FIRST QUARTER PAYROLL (\$1,000s)
Davidson County

	'59	'64	'69	'74	'79	'84	'89
Total Payroll	6376	7796	11683	18372	29216	43239	63414
Total Employment	6054	6335	7156	8015	9834	9844	11213
Avg. Pay	1.05	1.23	1.63	2.29	2.97	4.39	5.66
Growth Rate		17.1%	32.5%	40.5%	29.7%	47.8%	28.9%

borders of one county. In 1964 the economic region known as the Nashville Metropolitan Statistical Area (Nashville MSA) expands to include Davidson, Wilson, and Sumner counties. In 1973 this region is further enlarged to include Rutherford, Robertson, Cheatham, Dickson, and Williamson counties. Today, the U.S. Commerce Department's Bureau of Economic Analysis has identified 38 Tennessee counties, as well as 14 Kentucky counties, as belonging to Nashville's economic area. This area can be broken down into three distinct regions: Davidson County; Nashville MSA; and an outer ring of 44 largely rural counties (Eff).

A comparison of printing and publishing employment for Davidson County and the Nashville MSA shows similar growth for the two regions (see Table 9, Figures 1 & 2). This is especially true from 1964 to 1973 when the Nashville MSA consists of only three counties. The period after that is slightly more dynamic. The years 1976, 1978, and 1986 show substantially higher growth in employment for the Nashville MSA region than in Davidson County alone. Likewise, 1979 and

TABLE 9 =====

PRINTING and PUBLISHING
FIRST QUARTER EMPLOYMENT (number)
Davidson County - Nashville MSA

YEAR	EMPLOYMENT		CHANGE		PERCENT	
	(County)	(MSA)	(County)	(MSA)	(County)	(MSA)
1947	3633					
1948	2611		-1022		-28.1%	
1949	2707		96		3.7%	
1950	2925		218		8.1%	
1951	2695		-230		-7.9%	
(B) 1953	2707		12		0.4%	
1954	3286		579		21.4%	
(B) 1956	3206		-80		-2.4%	
(B) 1958	4710		1504		46.9%	
1959	6054		1344		28.4%	
(C) 1962	6789		735		12.1%	
1963	6375		-414		-6.1%	

1964	6335	6362	-40		-0.6%	
1965	6814	6845	479	483	7.6%	7.6%
1966	7022	7065	208	220	3.1%	3.2%
1967	7505	7553	483	488	6.9%	6.9%
1968	7439	7492	-66	-61	-0.9%	-0.8%
1969	7156	7209	-283	-283	-3.8%	-3.7%
1970	7202	7279	46	70	0.6%	1.0%
1971	7383	7441	181	162	2.5%	2.2%
1972	7222	7285	-161	-156	-2.2%	-2.1%

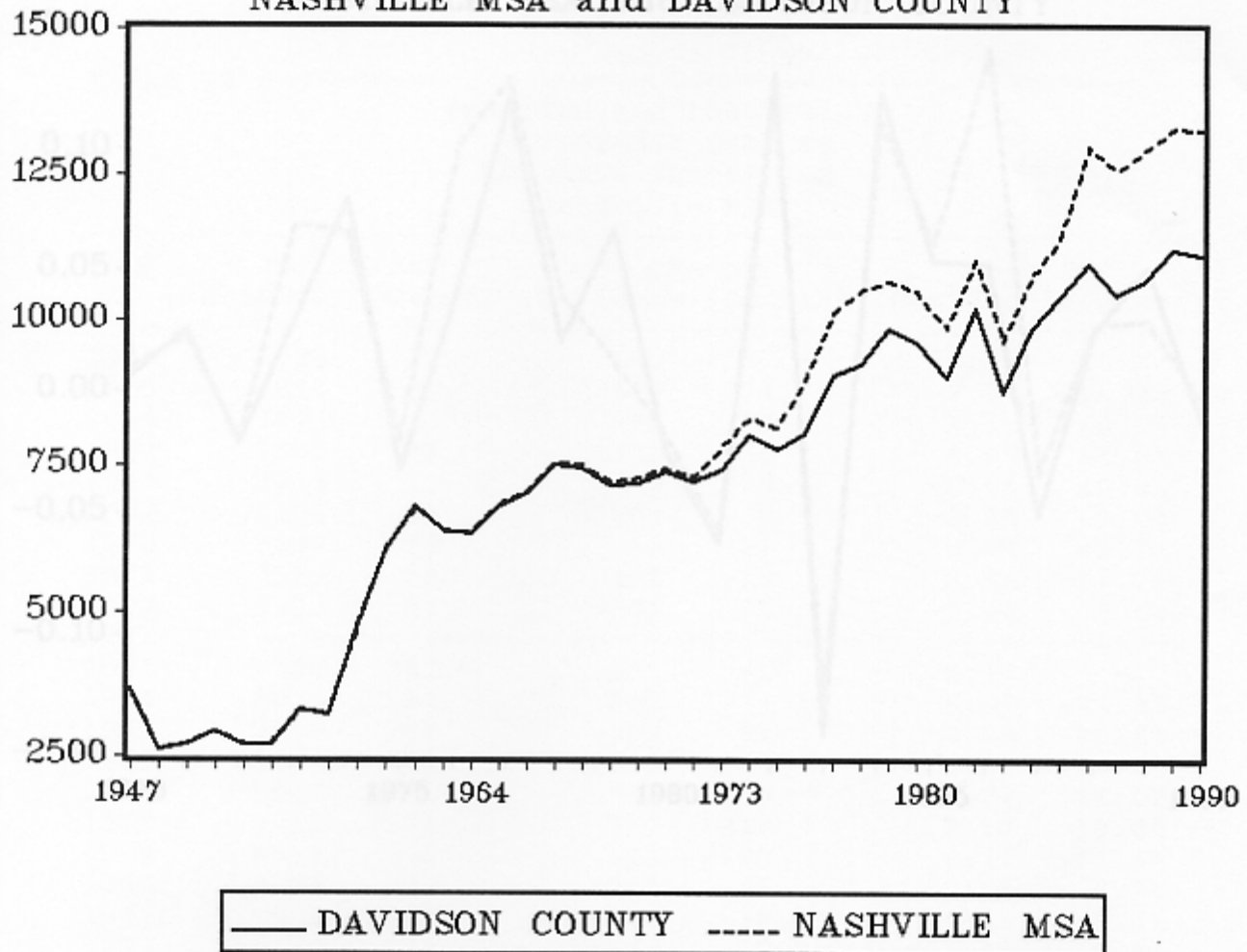
1973	7424	7785	591	500	8.2%	
1974	8015	8299	591	514	8.0%	6.6%
1975	7758	8126	-257	-173	-3.2%	-2.1%
1976	8059	8940	301	814	3.9%	10.0%
1977	9026	10096	967	1156	12.0%	12.9%
1978	9213	10495	187	399	2.1%	4.0%
1979	9834	10634	621	139	6.7%	1.3%
1980	9590	10448	-244	-186	-2.5%	-1.7%
1981	9005	9825	-585	-623	-6.1%	-6.0%
1982	10187	11026	1182	1201	13.1%	12.2%
1983	8756	9616	-1431	-1410	-14.0%	-12.8%
1984	9844	10707	1088	1091	12.4%	11.3%
1985	10381	11357	537	650	5.5%	6.1%
1986	10936	12982	555	1625	5.3%	14.3%
1987	10394	12558	-542	-424	-5.0%	-3.3%
1988	10662	12912	268	354	2.6%	2.8%
1989	11213	13304	551	392	5.2%	3.0%
1990	11095	13281	-118	-23	-1.1%	-0.2%

(B) - calculations are for a two year period

(C) - calculations are for a three year period

FIGURE 1

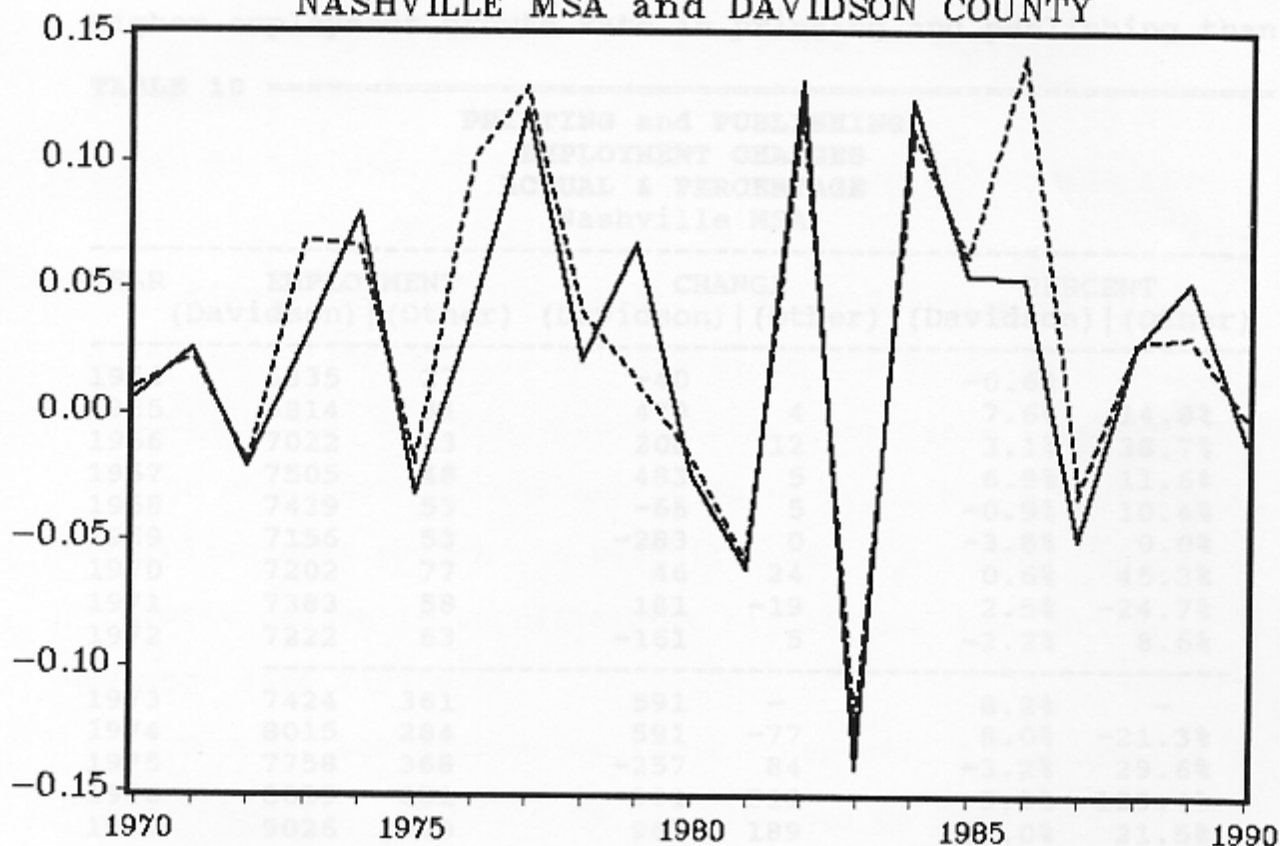
PRINTING and PUBLISHING EMPLOYMENT
NASHVILLE MSA and DAVIDSON COUNTY



1989 are better years for Davidson County than the region as a whole.

The differences in growth between Davidson County and the other counties within the Nashville MSA region is further illustrated by separating employment for Davidson County from the Nashville MSA figure (Figure 2). Except for 1971,

FIGURE 2
PRINTING and PUBLISHING EMPLOYMENT GROWTH
NASHVILLE MSA and DAVIDSON COUNTY



— DAVIDSON COUNTY - - - - NASHVILLE MSA

1989 are better years for Davidson County than the region as a whole.

The differences in growth between Davidson County and the other counties within the Nashville MSA region is further illustrated by separating employment for Davidson County from the Nashville MSA figures (see Table 10). Except for 1971, the two counties of Sumner and Wilson realize a substantially higher employment growth rate in printing and publishing than

TABLE 10 =====
PRINTING and PUBLISHING
EMPLOYMENT CHANGES
ACTUAL & PERCENTAGE
Nashville MSA

YEAR	EMPLOYMENT		CHANGE		PERCENT	
	(Davidson)	(Other)	(Davidson)	(Other)	(Davidson)	(Other)
1964	6335	27	-40		-0.6%	
1965	6814	31	479	4	7.6%	14.8%
1966	7022	43	208	12	3.1%	38.7%
1967	7505	48	483	5	6.9%	11.6%
1968	7439	53	-66	5	-0.9%	10.4%
1969	7156	53	-283	0	-3.8%	0.0%
1970	7202	77	46	24	0.6%	45.3%
1971	7383	58	181	-19	2.5%	-24.7%
1972	7222	63	-161	5	-2.2%	8.6%
1973	7424	361	591	-	8.2%	-
1974	8015	284	591	-77	8.0%	-21.3%
1975	7758	368	-257	84	-3.2%	29.6%
1976	8059	881	301	513	3.9%	139.4%
1977	9026	1070	967	189	12.0%	21.5%
1978	9213	1282	187	212	2.1%	19.8%
1979	9834	800	621	-482	6.7%	-37.6%
1980	9590	858	-244	58	-2.5%	7.3%
1981	9005	820	-585	-38	-6.1%	-4.4%
1982	10187	839	1182	19	13.1%	2.3%
1983	8756	860	-1431	21	-14.0%	2.5%
1984	9844	863	1088	3	12.4%	0.3%
1985	10381	976	537	113	5.5%	13.1%
1986	10936	2046	555	1070	5.3%	109.6%
1987	10394	2164	-542	118	-5.0%	5.8%
1988	10662	2250	268	86	2.6%	4.0%
1989	11213	2091	551	-159	5.2%	-7.1%
1990	11095	2186	-118	95	-1.1%	4.5%

the Davidson County area from 1964 to 1973. The pattern is similar after 1973 with 1974, '79, '82, '84, and '89 as the only years in which Davidson County's printing and publishing employment grows more than that of the seven other Nashville MSA counties.

In order to determine the importance of printing and publishing to the Nashville area, one must compare its ratios to an industry standard. In this study establishment and employment figures for the United States are compared with those of Davidson County and the Nashville MSA region (see Tables 11 & 12, Figure 3).

First, the ratio of printing and publishing units to units in all industries is determined for Davidson County, Nashville MSA, and the United States (see Table 13). These ratios show that the concentration of printing and publishing establishments within the Nashville MSA - Davidson County economic region is significantly higher than the national average (see Figure 4).

Second, the average employment per unit is determined (see Table 13). Similar to the findings on unit concentration, throughout the sample time-frame average employment is substantially higher in the Nashville MSA - Davidson County economic region than the national average (see Figure 5).

Then, the ratio of printing and publishing employment to employment in all industries is determined (see Table 14). The concentration of employment within the printing and

TABLE 11

ESTABLISHMENTS
TOTAL UNITS & PRINTING and PUBLISHING UNITS
 (United States - Nashville MSA - Davidson County)

YEAR	<u>United States</u>		<u>Nashville MSA</u>		<u>Davidson County</u>	
	Total	Print	Total	Print	Total	Print
1948	2674931	30457	5636	77	5636	77
1949	NA	31370	NA	81	NA	81
1950	NA	31072	NA	81	NA	81
1951	2886067	31604	5994	84	5994	84
1952	NA	NA	NA	NA	NA	NA
1953	3681021	31910	6085	88	6085	88
1954	NA	NA	NA	86	NA	86
1955	NA	NA	NA	NA	NA	NA
1956	3129148	33554	6582	92	6582	92
1957	NA	NA	NA	NA	NA	NA
1958	NA	NA	NA	87	NA	87
1959	3302542	34340	7256	87	7256	87
1960	NA	NA	NA	NA	NA	NA
1961	NA	NA	NA	NA	NA	NA
1962	3347647	35001	7358	99	7358	99
1963	NA	NA	NA	127	NA	127
1964	3457731	35905	8961	132	7903	127
1965	3521554	36264	9239	130	8115	126
1966	3541562	36249	9356	126	8196	120
1967	3510612	36092	9355	132	8188	123
1968	3503453	35930	9611	142	8408	134
1969	3533987	36111	9811	138	8537	131
1970	3520930	36310	9812	149	8544	140
1971	3511167	36494	9828	164	8514	155
1972	3540846	36446	9994	176	8654	167
1973	3652913	38181	12752	195	8922	166
1974	4110031	40335	NA	NA	10478	187
1975	4114262	40713	NA	NA	10487	178
1976	4142810	41877	15588	230	10830	184
1977	4352295	44651	16624	245	11323	199
1978	4409223	44392	16734	242	11399	185
1979	4535653	44415	NA	NA	11935	187
1980	4543167	44797	NA	NA	11921	184
1981	4586510	45560	NA	NA	12138	187
1982	5246737	53071	NA	NA	12265	212
1983	5306787	53291	NA	NA	14059	240
1984	5517716	54525	NA	NA	14699	249
1985	5701485	56137	NA	NA	15379	256
1986	5806973	57318	NA	NA	15783	251
1987	5937061	61918	NA	NA	16317	267
1988	6018600	60434	NA	NA	16702	267
1989	6107413	60642	NA	NA	17047	274
1990	NA	NA	NA	NA	17080	285

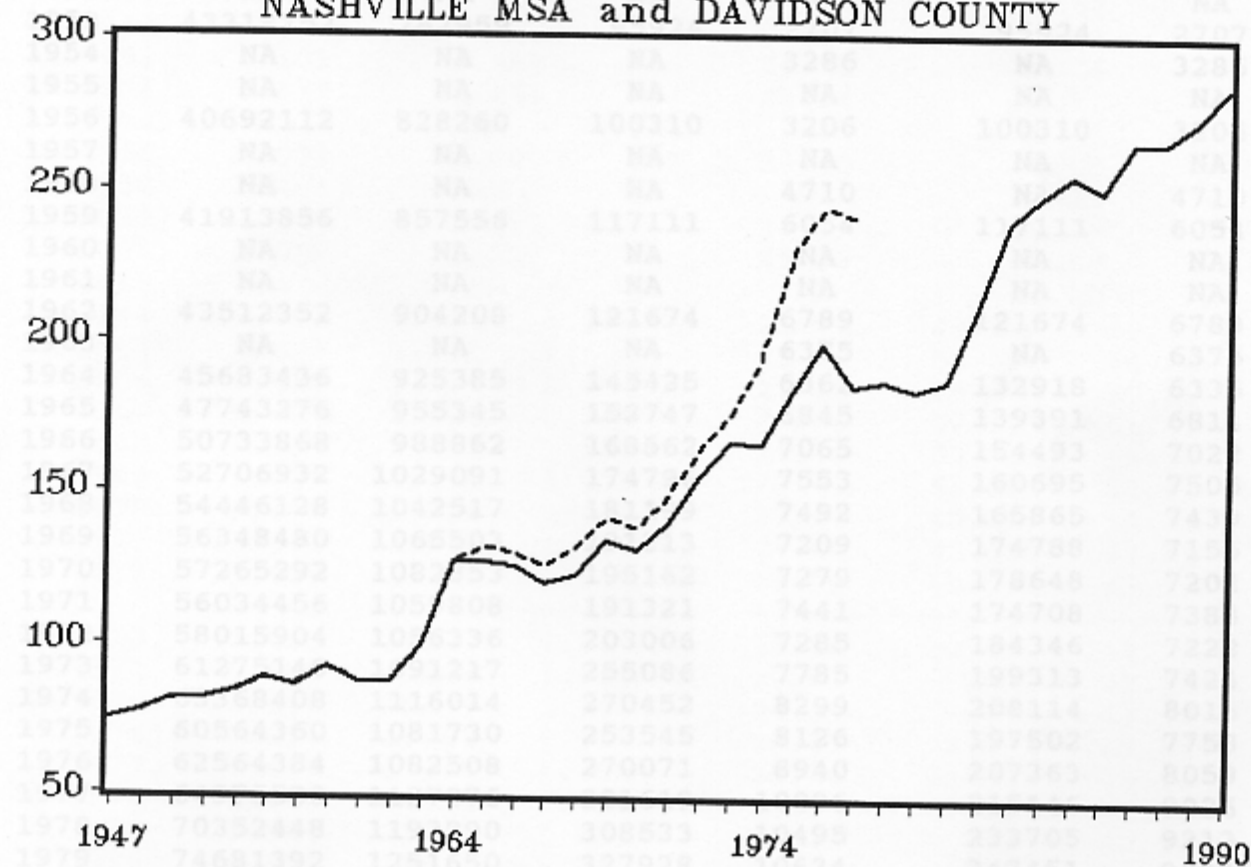
TABLE 12

EMPLOYMENT

TOTAL EMPLOYMENT & PRINTING AND PUBLISHING EMPLOYMENT
(United States - Nashville MSA - Davidson County)

YEAR	United States		Nashville MSA		Davidson County	
	Total	Print	Total	Print	Total	Print
1947	NA	715129	NA	3633	NA	3633
1948	35627496	714762	85949	2611	85949	2611
1949	NA	726197	2707	NA	2707	NA

FIGURE 3

PRINTING and PUBLISHING ESTABLISHMENTS
NASHVILLE MSA and DAVIDSON COUNTY

— DAVIDSON COUNTY ----- NASHVILLE MSA

TABLE 12 =====

EMPLOYMENT

TOTAL EMPLOYMENT & PRINTING and PUBLISHING EMPLOYMENT

(United States - Nashville MSA - Davidson County)

YEAR	<u>United States</u>		<u>Nashville MSA</u>		<u>Davidson County</u>	
	Total	Print	Total	Print	Total	Print
1947	NA	715120	NA	3633	NA	3633
1948	35627496	714762	85949	2611	85949	2611
1949	NA	726197	NA	2707	NA	2707
1950	NA	734773	NA	2925	NA	2925
1951	37912728	764158	94741	2695	94741	2695
1952	NA	NA	NA	NA	NA	NA
1953	43318752	782959	95924	2707	95924	2707
1954	NA	NA	NA	3286	NA	3286
1955	NA	NA	NA	NA	NA	NA
1956	40692112	828260	100310	3206	100310	3206
1957	NA	NA	NA	NA	NA	NA
1958	NA	NA	NA	4710	NA	4710
1959	41913856	857556	117111	6054	117111	6054
1960	NA	NA	NA	NA	NA	NA
1961	NA	NA	NA	NA	NA	NA
1962	43512352	904208	121674	6789	121674	6789
1963	NA	NA	NA	6375	NA	6375
1964	45683436	925385	145425	6362	132918	6335
1965	47743276	955345	152747	6845	139391	6814
1966	50733868	988862	168562	7065	154493	7022
1967	52706932	1029091	174796	7553	160695	7505
1968	54446128	1042517	181199	7492	165865	7439
1969	56348480	1065503	191213	7209	174788	7156
1970	57265292	1082353	195162	7279	178648	7202
1971	56034456	1059808	191321	7441	174708	7383
1972	58015904	1056336	203006	7285	184346	7222
1973	61275140	1091217	255086	7785	199313	7424
1974	63368408	1116014	270452	8299	208114	8015
1975	60564360	1081730	253545	8126	197502	7758
1976	62564384	1082508	270071	8940	207363	8059
1977	64975580	1127876	281619	10096	215146	9026
1978	70352448	1193990	308533	10495	233705	9213
1979	74681392	1251650	327928	10634	247451	9834
1980	74844176	1260191	323638	10448	242489	9590
1981	74850400	1262000	326784	9825	245579	9005
1982	74287120	1298298	319623	11026	236341	10187
1983	72971320	1286520	319980	9616	237046	8756
1984	78021560	1355907	355820	10707	260472	9844
1985	81119256	1416096	379899	11357	276017	10381
1986	83379232	1451488	409957	12982	297897	10936
1987	85483808	1500624	422636	12558	303701	10394
1988	87881632	1524887	440110	12912	315345	10662
1989	91631200	1543632	455795	13304	323222	11213
1990	NA	NA	439027	13281	324687	11095

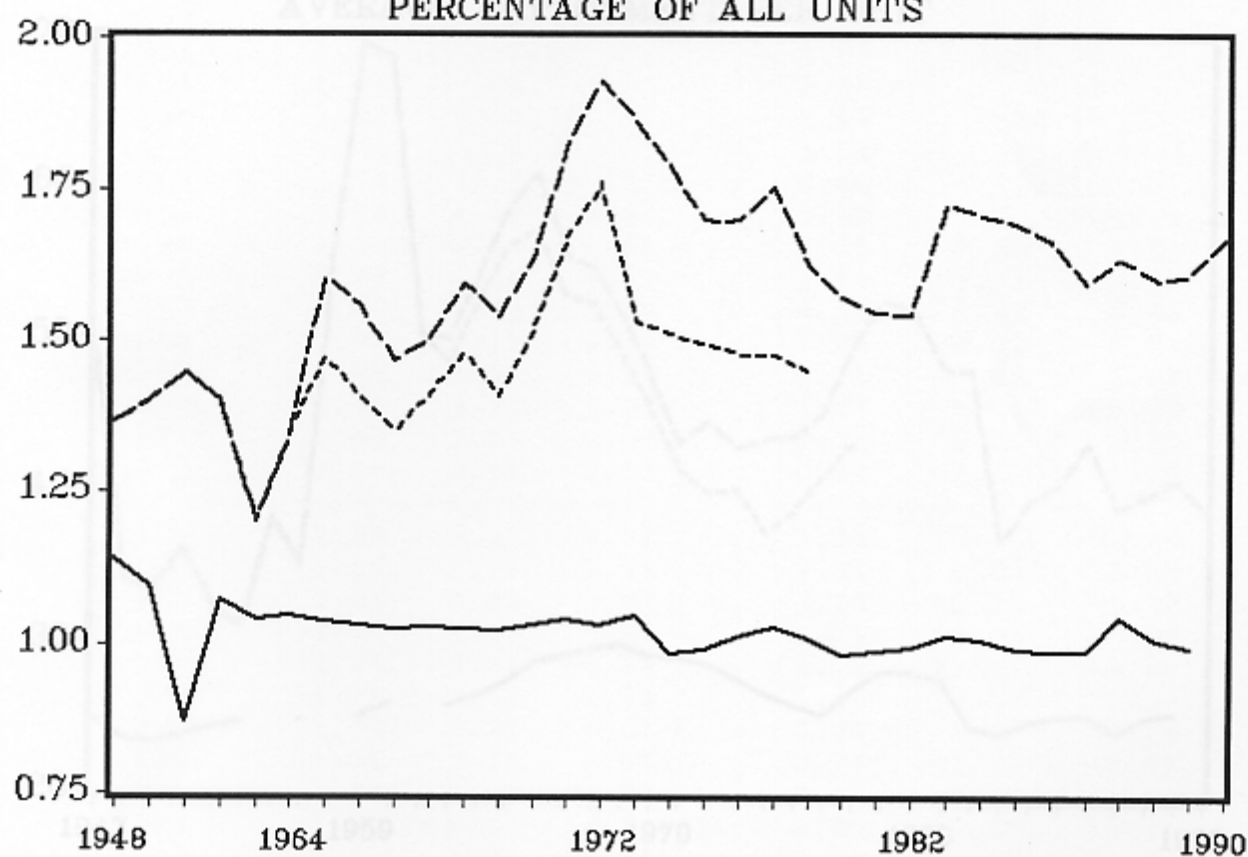
TABLE 13

PRINTING and PUBLISHING
PERCENTAGE OF UNITS TO ALL INDUSTRIES' UNITS
AVERAGE EMPLOYMENT PER UNIT

(United States - Nashville MSA - Davidson County)

YEAR	<u>Percentage of All Units</u>			<u>Average Employment</u>		
	U.S. - MSA - Davidson			U.S. - MSA - Davidson		
1947	NA	NA		24.68	49.09	
1948	1.14%	1.37%		23.47	33.91	
1949	NA	NA		23.15	33.42	
1950	NA	NA		23.65	36.11	
1951	1.10%	1.40%		24.18	32.08	
1953	0.87%	1.45%		24.54	30.76	
1954	NA	NA		NA	38.21	
1956	1.07%	1.40%		24.68	34.85	
1958	NA	NA		NA	54.14	
1959	1.04%	1.20%		24.97	69.59	
1962	1.05%	1.35%		25.83	68.58	
1963	NA	NA		NA	50.20	
1964	1.04%	1.47%	1.61%	25.77	48.20	49.88
1965	1.03%	1.41%	1.55%	26.34	52.65	54.08
1966	1.02%	1.35%	1.46%	27.28	56.07	58.52
1967	1.03%	1.41%	1.50%	28.51	57.22	61.02
1968	1.03%	1.48%	1.59%	29.02	52.76	55.51
1969	1.02%	1.41%	1.53%	29.51	52.24	54.63
1970	1.03%	1.52%	1.64%	29.81	48.85	51.44
1971	1.04%	1.67%	1.82%	29.04	45.37	47.63
1972	1.03%	1.76%	1.93%	28.98	41.39	43.25
1973	1.05%	1.53%	1.86%	28.58	39.92	44.72
1974	0.98%	NA	1.78%	27.67	NA	42.86
1975	0.99%	NA	1.70%	26.57	NA	43.58
1976	1.01%	1.48%	1.70%	25.85	38.87	43.80
1977	1.03%	1.47%	1.76%	25.26	41.21	45.36
1978	1.01%	1.45%	1.62%	26.90	43.37	49.80
1979	0.98%	NA	1.57%	28.18	NA	52.59
1980	0.99%	NA	1.54%	28.13	NA	52.12
1981	0.99%	NA	1.54%	27.70	NA	48.16
1982	1.01%	NA	1.73%	24.46	NA	48.05
1983	1.00%	NA	1.71%	24.14	NA	36.48
1984	0.99%	NA	1.69%	24.87	NA	39.53
1985	0.98%	NA	1.66%	25.23	NA	40.55
1986	0.99%	NA	1.59%	25.32	NA	43.57
1987	1.04%	NA	1.64%	24.24	NA	38.93
1988	1.00%	NA	1.60%	25.23	NA	39.93
1989	0.99%	NA	1.61%	25.45	NA	40.92
1990	NA	NA	1.67%	NA	NA	38.93

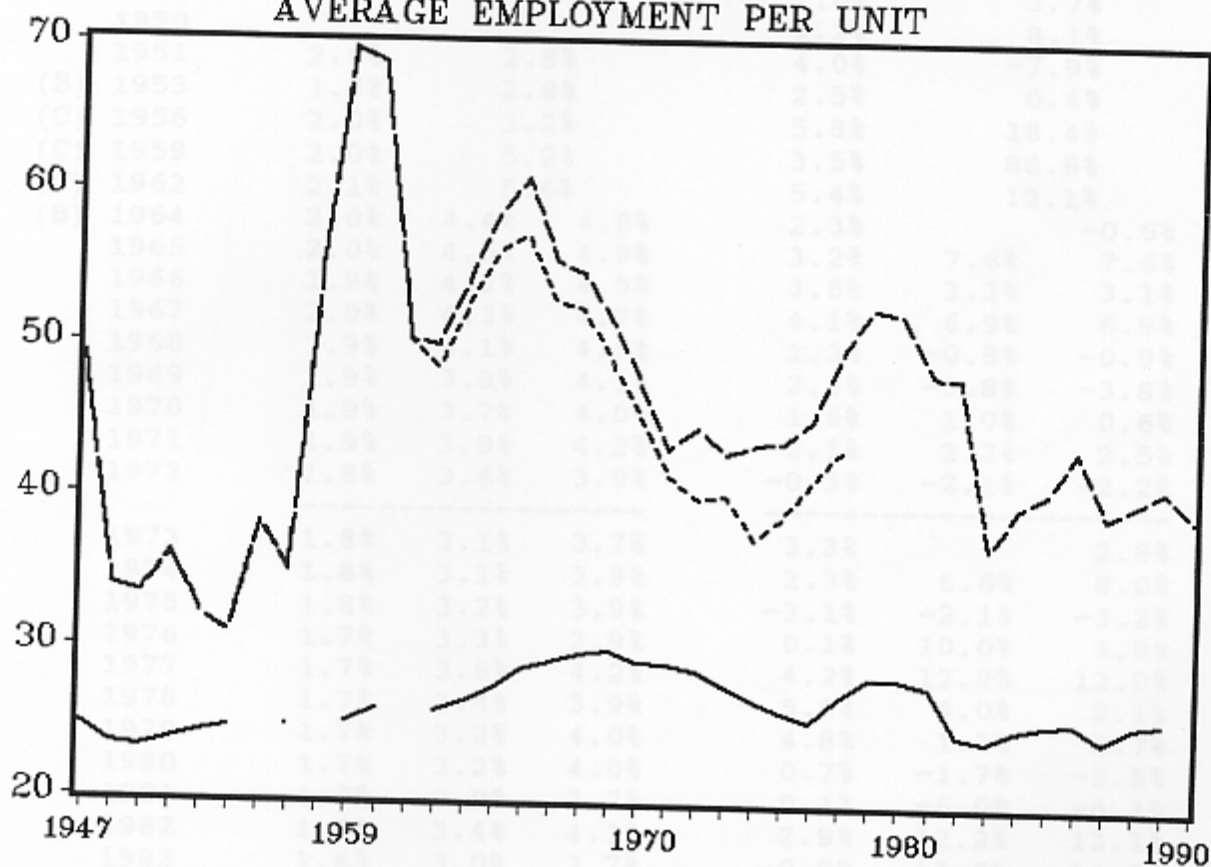
FIGURE 4
PRINTING and PUBLISHING UNITS
PERCENTAGE OF ALL UNITS



— UNITED STATES - - - - NASHVILLE MSA DAVIDSON COUNTY

TABLE 14
 PRINTING AND PUBLISHING
 EMPLOYMENT
 PERCENTAGE OF ALL INDUSTRIES' EMPLOYMENT
 GROWTH RATE OF EMPLOYMENT
 (United States - Nashville MSA - Davidson County)

FIGURE 5
 PRINTING and PUBLISHING EMPLOYMENT
 AVERAGE EMPLOYMENT PER UNIT



— UNITED STATES ---- NASHVILLE MSA --- DAVIDSON COUNTY

(B) - growth calculations are for a two year period
 (C) - growth calculations are for a three year period

TABLE 14 =====

**PRINTING and PUBLISHING
EMPLOYMENT**

PERCENTAGE OF ALL INDUSTRIES' EMPLOYMENT

GROWTH RATE OF EMPLOYMENT

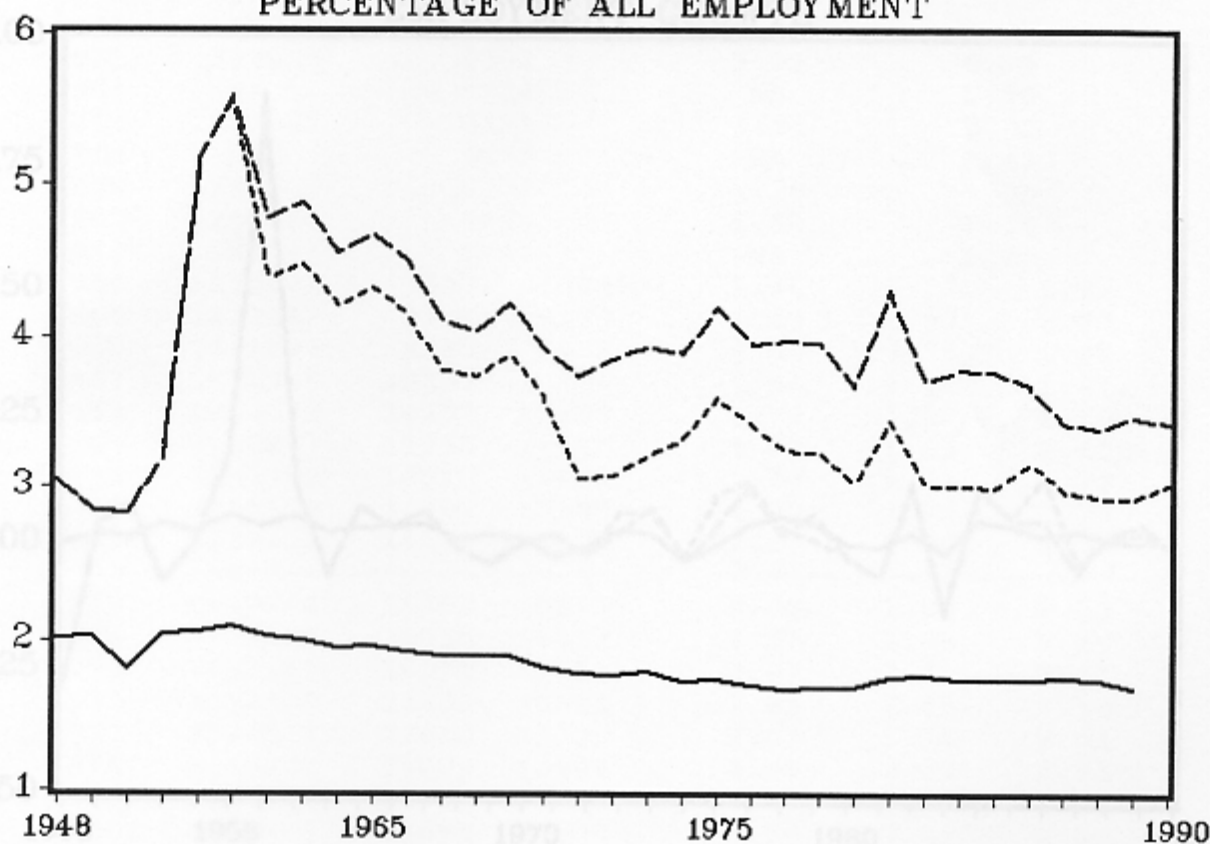
(United States - Nashville MSA - Davidson County)

YEAR	<u>Percentage of All Industries</u>			<u>Growth</u>		
	U.S. - MSA - Davidson			U.S. - MSA - Davidson		
1948	2.0%	3.0%		-0.1%	-28.1%	
1949				1.6%	3.7%	
1950				1.2%	8.1%	
1951	2.0%	2.8%		4.0%	-7.9%	
(B) 1953	1.8%	2.8%		2.5%	0.4%	
(C) 1956	2.0%	3.2%		5.8%	18.4%	
(C) 1959	2.0%	5.2%		3.5%	88.8%	
(C) 1962	2.1%	5.6%		5.4%	12.1%	
(B) 1964	2.0%	4.4%	4.8%	2.3%		-0.6%
1965	2.0%	4.5%	4.9%	3.2%	7.6%	7.6%
1966	1.9%	4.2%	4.5%	3.5%	3.2%	3.1%
1967	2.0%	4.3%	4.7%	4.1%	6.9%	6.9%
1968	1.9%	4.1%	4.5%	1.3%	-0.8%	-0.9%
1969	1.9%	3.8%	4.1%	2.2%	-3.8%	-3.8%
1970	1.9%	3.7%	4.0%	1.6%	1.0%	0.6%
1971	1.9%	3.9%	4.2%	-2.1%	2.2%	2.5%
1972	1.8%	3.6%	3.9%	-0.3%	-2.1%	-2.2%
1973	1.8%	3.1%	3.7%	3.3%		2.8%
1974	1.8%	3.1%	3.9%	2.3%	6.6%	8.0%
1975	1.8%	3.2%	3.9%	-3.1%	-2.1%	-3.2%
1976	1.7%	3.3%	3.9%	0.1%	10.0%	3.9%
1977	1.7%	3.6%	4.2%	4.2%	12.9%	12.0%
1978	1.7%	3.4%	3.9%	5.9%	4.0%	2.1%
1979	1.7%	3.2%	4.0%	4.8%	1.3%	6.7%
1980	1.7%	3.2%	4.0%	0.7%	-1.7%	-2.5%
1981	1.7%	3.0%	3.7%	0.1%	-6.0%	-6.1%
1982	1.7%	3.4%	4.3%	2.9%	12.2%	13.1%
1983	1.8%	3.0%	3.7%	-0.9%	-12.8%	-14.0%
1984	1.7%	3.0%	3.8%	5.4%	11.3%	12.4%
1985	1.7%	3.0%	3.8%	4.4%	6.1%	5.5%
1986	1.7%	3.2%	3.7%	2.5%	14.3%	5.3%
1987	1.8%	3.0%	3.4%	3.4%	-3.3%	-5.0%
1988	1.7%	2.9%	3.4%	1.6%	2.8%	2.6%
1989	1.7%	2.9%	3.5%	1.2%	3.0%	5.2%
1990	NA	3.0%	3.4%	NA	-0.2%	-1.1%

(B) - growth calculations are for a two year period

(C) - growth calculations are for a three year period

FIGURE 6
 PRINTING and PUBLISHING EMPLOYMENT
 PERCENTAGE OF ALL EMPLOYMENT



— UNITED STATES - - - - NASHVILLE MSA - - - - DAVIDSON COUNTY

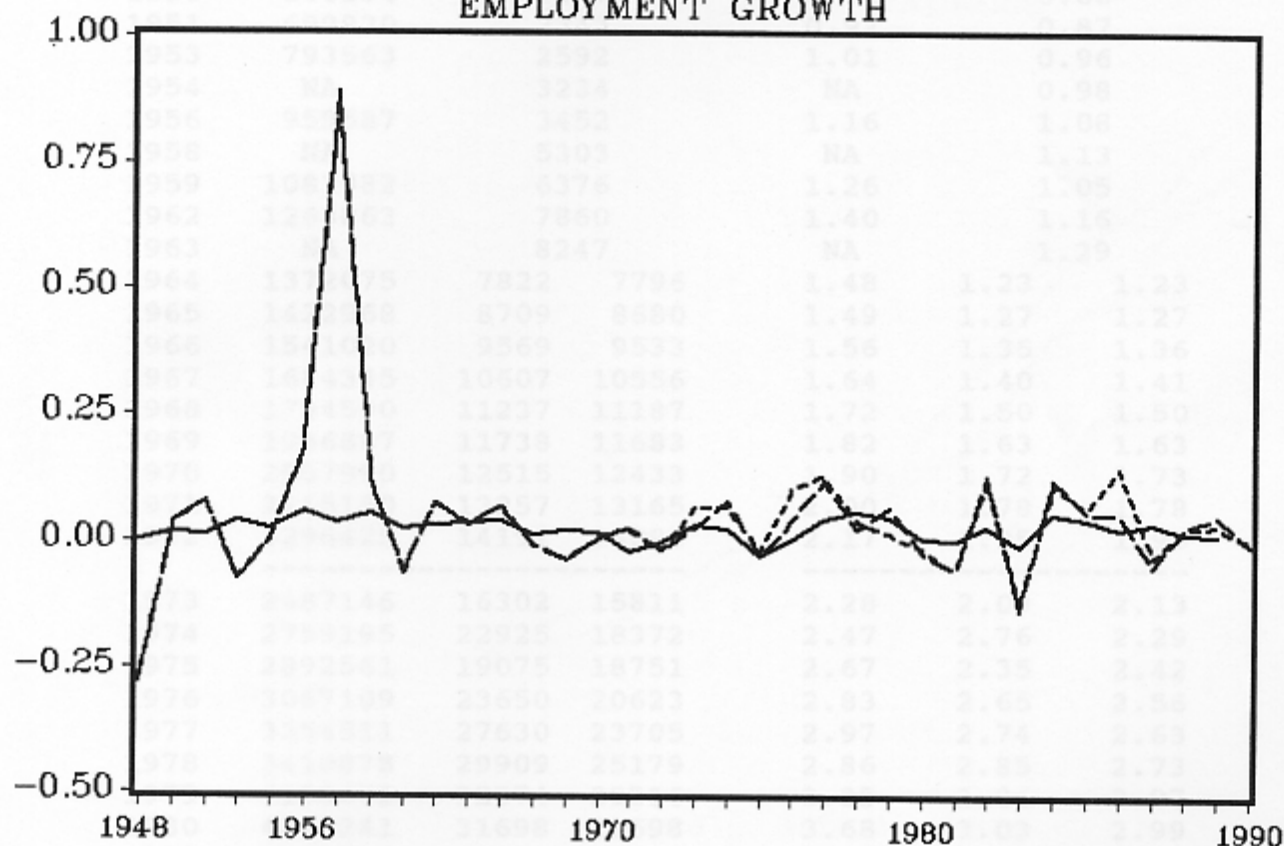
TABLE 15
PRINTING AND PUBLISHING
FIRST QUARTER PAYROLL (\$1,000)
AVERAGE PAYROLL PER EMPLOYEE (\$1,000)
(United States - Nashville MSA - Davidson County)

YEAR	First Quarter Payroll U.S. - MSA - Davidson	Average Payroll U.S. - MSA - Davidson
------	--	--

1947	569066	0.80
1948	573074	0.86
1949	581082	0.92
1950	589090	0.98
1951	597098	1.04
1952	605106	1.10
1953	613114	1.16
1954	621122	1.22
1955	629130	1.28
1956	637138	1.34
1957	645146	1.40
1958	653154	1.46
1959	661162	1.52
1960	669170	1.58
1961	677178	1.64
1962	685186	1.70
1963	693194	1.76
1964	701202	1.82
1965	709210	1.88
1966	717218	1.94
1967	725226	2.00
1968	733234	2.06
1969	741242	2.12
1970	749250	2.18
1971	757258	2.24
1972	765266	2.30
1973	773274	2.36
1974	781282	2.42
1975	789290	2.48
1976	797298	2.54
1977	805306	2.60
1978	813314	2.66
1979	821322	2.72
1980	829330	2.78
1981	837338	2.84
1982	845346	2.90
1983	853354	2.96
1984	861362	3.02
1985	869370	3.08
1986	877378	3.14
1987	885386	3.20
1988	893394	3.26
1989	901402	3.32
1990	909410	3.38

FIGURE 7

PRINTING and PUBLISHING EMPLOYMENT EMPLOYMENT GROWTH



— UNITED STATES - - - - NASHVILLE MSA DAVIDSON COUNTY

1986	771750	61001	50733	5.32	4.70	4.64
1987	8248751	64739	53853	5.50	5.16	5.18
1988	8920143	70567	58084	5.85	5.47	5.45
1989	9345345	75887	63414	6.05	5.55	5.66
1990	NA	NA	64157	NA	NA	5.78

MEAN AVERAGE PAY: 2.67 2.39 2.44

TABLE 15

PRINTING and PUBLISHING

FIRST QUARTER PAYROLL (\$1,000)

AVERAGE PAYROLL PER EMPLOYEE (\$1,000)

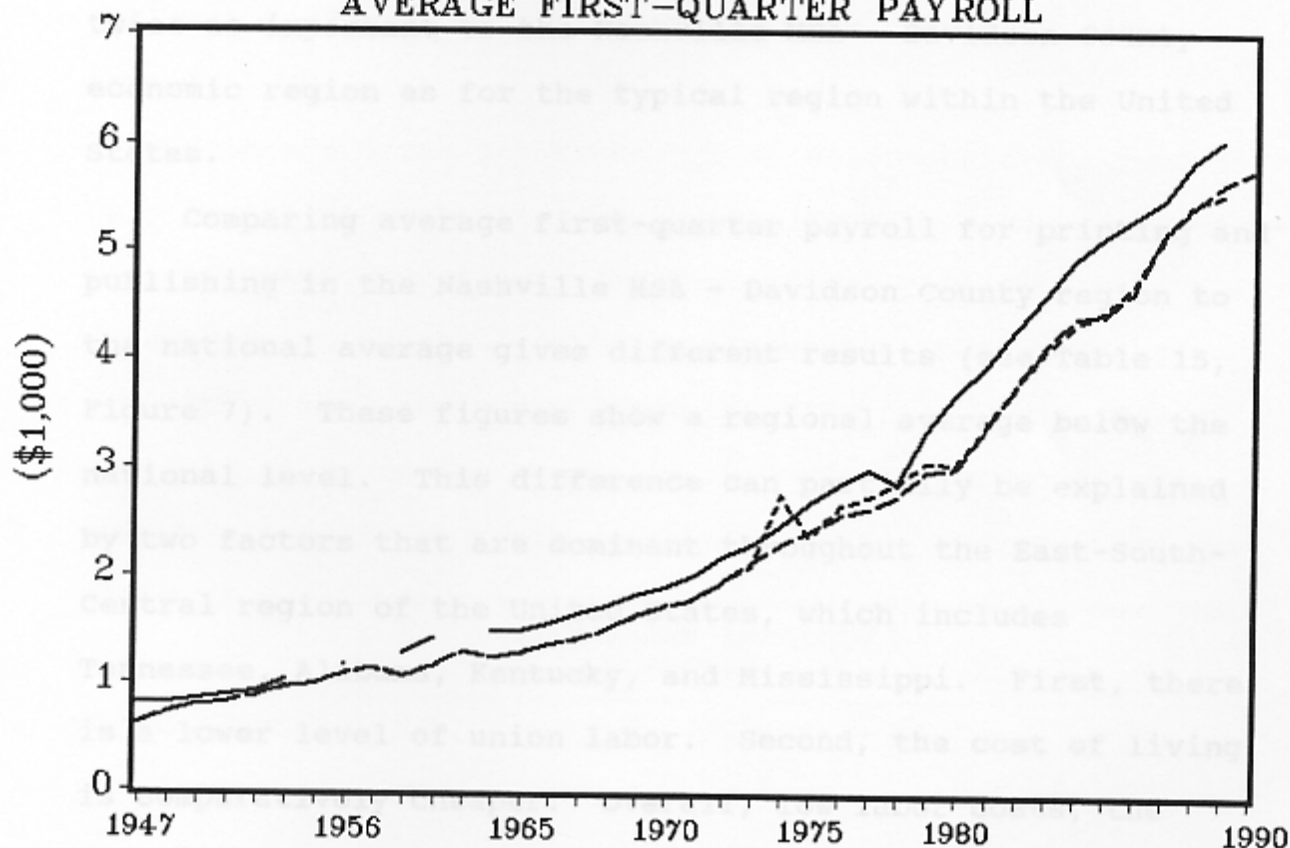
(United States - Nashville MSA - Davidson County)

YEAR	<u>First Quarter Payroll</u>			<u>Average Payroll</u>		
	U.S. - MSA - Davidson			U.S. - MSA - Davidson		
1947	569066	2208		0.80	0.61	
1948	572076	1860		0.80	0.71	
1949	604205	2120		0.83	0.78	
1950	646394	2347		0.88	0.80	
1951	699920	2343		0.92	0.87	
1953	793563	2592		1.01	0.96	
1954	NA	3234		NA	0.98	
1956	959587	3452		1.16	1.08	
1958	NA	5303		NA	1.13	
1959	1081982	6376		1.26	1.05	
1962	1268863	7860		1.40	1.16	
1963	NA	8247		NA	1.29	
1964	1372075	7822	7796	1.48	1.23	1.23
1965	1422968	8709	8680	1.49	1.27	1.27
1966	1541020	9569	9533	1.56	1.35	1.36
1967	1684345	10607	10556	1.64	1.40	1.41
1968	1794590	11237	11187	1.72	1.50	1.50
1969	1936887	11738	11683	1.82	1.63	1.63
1970	2057990	12515	12433	1.90	1.72	1.73
1971	2115180	13257	13165	2.00	1.78	1.78
1972	2296425	14192	14095	2.17	1.95	1.95
1973	2487146	16302	15811	2.28	2.09	2.13
1974	2759195	22925	18372	2.47	2.76	2.29
1975	2892561	19075	18751	2.67	2.35	2.42
1976	3067109	23650	20623	2.83	2.65	2.56
1977	3354511	27630	23705	2.97	2.74	2.63
1978	3410878	29909	25179	2.86	2.85	2.73
1979	4190472	32574	29216	3.35	3.06	2.97
1980	4642241	31698	28698	3.68	3.03	2.99
1981	4978986	33471	30497	3.95	3.41	3.39
1982	5575710	41662	38354	4.29	3.78	3.76
1983	5893812	39300	36123	4.58	4.09	4.13
1984	6673888	46336	43239	4.92	4.33	4.39
1985	7289585	50486	45839	5.15	4.45	4.42
1986	7717103	61001	50733	5.32	4.70	4.64
1987	8248751	64739	53853	5.50	5.16	5.18
1988	8920143	70567	58084	5.85	5.47	5.45
1989	9345345	73887	63414	6.05	5.55	5.66
1990	NA	NA	64157	NA	NA	5.78
MEAN AVERAGE PAY:				2.67	2.39	2.44

publishing industry as a percentage of all industries is considerably higher within the Nashville MSA - Davidson county economic region than the national average (see Figure 5).

All three of these sets of data show concentrations twice as high as the national average for almost every

FIGURE 8
PRINTING and PUBLISHING PAYROLL
AVERAGE FIRST-QUARTER PAYROLL



— UNITED STATES - - - - NASHVILLE MSA - . - . - DAVIDSON COUNTY

within the East-South-Central region (Johnston, Region That Could, 89). All of these factors, combined with the absence of a personal income tax and the exemption of property taxes on the inventories of distributors, give the Nashville

publishing industry as a percentage of all industries is considerably higher within the Nashville MSA - Davidson county economic region than the national average (see Figure 6).

All three of these sets of data show concentrations twice as high as the national average for almost every observation. In other words, printing and publishing is twice as important to the Nashville MSA - Davidson County economic region as for the typical region within the United States.

Comparing average first-quarter payroll for printing and publishing in the Nashville MSA - Davidson County region to the national average gives different results (see Table 15, Figure 7). These figures show a regional average below the national level. This difference can partially be explained by two factors that are dominant throughout the East-South-Central region of the United States, which includes Tennessee, Alabama, Kentucky, and Mississippi. First, there is a lower level of union labor. Second, the cost of living is comparatively cheaper. Overall, low labor costs, the prevailing mild climate, low tax rates, and inexpensive industrial real estate contribute to the high concentrations of printing and publishing establishments and employment within the East-South-Central region (Johnston, *Region That Could*, 59). All of these factors, combined with the absence of a personal income tax and the exemption of property taxes on the inventories of distributors, give the Nashville

economic region a competitive advantage for certain industries within the United States (Summer, 26).

A competitive advantage is important to an economic region because it contributes to its overall employment growth. As Table 14 shows, though the high concentration of establishments and employment for printing and publishing is relatively stable compared to the national average, employment growth does not show the same stability (see Figure 7).

Economists use the framework of shift-share analysis to help in the determination of factors contributing to change in employment over time. Shift-share analysis separates a change in employment into three components: national share, industrial mix, and competitive position (see Table 16). National share is the change in employment that would have been realized for a region within a certain industry had that

TABLE 16 =====

**SHIFT-SHARE ANALYSIS
FORMULAS**

National share (NS)	= $E_i[(US^*/US) - 1]$
Industrial mix (IM)	= $E_i[(US_i^*/US_i) - (US^*/US)]$
Competitive position (CP)	= $E_i[(E_i^*/E_i) - (US_i^*/US_i)]$
Change in Employment	= $NS + IM + CP$

US = total national employment at the beginning of period
 US* = total national employment at the end of period
 US_i = national employment for ith industry at beginning of period
 US_i* = national employment for ith industry at end of period
 E_i = regional employment for ith industry at beginning of period
 E_i* = regional employment for ith industry at end of period

industry grown at the national growth rate for all industries. Industrial mix accounts for the change in employment within an industry because the industry's national growth-rate is different from the national growth-rate for all industries. Competitive position accounts for the change in employment for an industry within a particular region because its growth within that region is different from the national growth-rate for that particular industry. Competitive position is very important in that it is an indication of whether a region has an advantage over other regions for a particular industry. When all three components are added together, they equal the actual change for employment within a specified time-frame (Hirsch, 223 -25).

There are two techniques to shift-share analysis, static and dynamic. The static approach uses data for the beginning and end periods of a study time-frame only. The dynamic approach, as described by Richard A. Barff and Prentice L. Knight III in *Dynamic Shift-Share Analysis*, determines the three effects of shift-share analysis on an annual basis. The dynamic form "is important when the study period is characterized by either large changes in regional industrial mix or major differences between regional and national growth rates" (1). The process used in this report is dynamic shift-share analysis.

Applying shift-share analysis to the employment data in Table 12 shows an overall competitive advantage in printing and publishing for the Davidson county area for the

entire time period of 1948 to 1989 (see Table 17). The actual change in employment is an increase of 8,602 employees. If printing and publishing had grown within Davidson county at the national average growth-rate for all industries from 1948 to 1989, employment would have increased by only 7,037 employees. Since the national growth-rate for printing and publishing is lower than the average for all industries, that change should have decreased by 1,537 employees, for an overall increase of 5,500 employees. However, since Davidson county has a competitive advantage in the area of printing and publishing, the negative effects of the lower national growth-rate for the industrial sector is eliminated, and employment rises by 1,565 employees more than the gain attributed to the average national growth-rate for all industries.

A similar model is developed for the Nashville MSA region (see Table 18). Since the Nashville MSA area introduces new counties in the years 1964 and 1973, data for Davidson county is used in those years in order to analyze part of the change in employment that occurred. Because of this deviation from actual employment figures, the total change reflected by the calculations will not equal the actual change within the entire period. Similar to the results of the previous observation, the competitive advantage of the region boosts the growth in employment over the national average for all industries, as well as the national average for printing and publishing industries. The

TABLE 17

SHIFT-SHARE ANALYSIS
Davidson County

	YEAR	EMPLOYMENT	CHANGE	NATIONAL SHARE	INDUSTRIAL MIX	COMPETITIVE POSITION -
	1948	2611				
(C)	1951	2695	84	167.5	13.0	-96.4
(B)	1953	2707	12	384.3	-318.0	-54.3
(C)	1956	3206	499	-164.1	320.8	342.4
(C)	1959	6054	2848	96.3	17.1	2734.6
(C)	1962	6789	735	230.9	98.5	405.7
(B)	1964	6335	-454	338.7	-179.7	-613.0
	1965	6814	479	285.6	-80.5	273.9
	1966	7022	208	426.8	-187.8	-31.1
	1967	7505	483	273.1	12.6	197.3
	1968	7439	-66	247.6	-149.7	-163.9
	1969	7156	-283	259.9	-95.9	-447.0
	1970	7202	46	116.4	-3.3	-67.2
	1971	7383	181	-154.8	4.8	331.0
	1972	7222	-161	261.1	-285.3	-136.8
	1973	7424	202	405.7	-167.2	-36.5
	1974	8015	591	253.6	-84.9	422.3
	1975	7758	-257	-354.7	108.4	-10.8
	1976	8059	301	256.2	-250.6	295.4
	1977	9026	967	310.6	27.2	629.2
	1978	9213	187	746.9	-217.8	-342.1
	1979	9834	621	566.9	-122.0	176.1
	1980	9590	-244	21.4	45.7	-311.1
	1981	9005	-585	0.8	13.0	-598.8
	1982	10187	1182	-67.8	326.8	923.0
	1983	8756	-1431	-180.4	88.0	-1338.6
	1984	9844	1088	606.0	-133.7	615.8
	1985	10381	537	390.8	46.1	100.0
	1986	10936	555	289.2	-29.8	295.6
	1987	10394	-542	276.0	94.2	-912.2
	1988	10662	268	291.6	-123.5	99.9
	1989	11213	551	454.9	-323.8	419.9
Total:		8602		7037.2	-1537.6	3102.5

(B) - calculations are for a two year period

(C) - calculations are for a three year period

TABLE 18

SHIFT-SHARE ANALYSIS

Nashville MSA

YEAR	EMPLOYMENT	CHANGE	NATIONAL SHARE	INDUSTRIAL MIX	COMPETITIVE POSITION -
1948	2611				
(C) 1951	2695	84	167.5	13.0	-96.4
(B) 1953	2707	12	384.3	-318.0	-54.3
(C) 1956	3206	499	-164.1	320.8	342.4
(C) 1959	6054	2848	96.3	17.1	2734.6
(C) 1962	6789	735	230.9	98.5	405.7
(B*) 1964	6362	-454*	338.7*	-179.7*	-613.0*
1965	6845	483	286.9	-80.9	277.0
1966	7065	220	428.8	-188.6	-20.1
1967	7553	488	274.8	12.7	200.6
1968	7492	-61	249.2	-150.7	-159.5
1969	7209	-283	261.8	-96.6	-448.2
1970	7279	70	117.3	-3.3	-44.0
1971	7441	162	-156.5	4.8	313.6
1972	7285	-156	263.1	-287.5	-131.6
(*) 1973	7785	202*	405.7*	-167.2*	-36.5*
1974	8299	514	265.9	-89.0	337.1
1975	8126	-173	-367.2	112.3	81.9
1976	8940	814	268.3	-262.5	808.2
1977	10096	1156	344.5	30.1	781.3
1978	10495	399	835.5	-243.7	-192.8
1979	10634	139	645.8	-139.0	-367.8
1980	10448	-186	23.2	49.4	-258.6
1981	9825	-623	0.9	14.1	-638.0
1982	11026	1201	-73.9	356.5	918.4
1983	9616	-1410	-195.3	95.3	-1310.0
1984	10707	1091	665.5	-146.9	572.4
1985	11357	650	425.1	50.2	174.7
1986	12982	1625	316.4	-32.6	1341.2
1987	12558	-424	327.7	111.8	-863.5
1988	12912	354	352.3	-149.2	151.0
1989	13304	392	550.9	-392.2	233.3
Total:		10368	7570.3	-1641.0	4439.0

(B) - calculations are for a two year period

(C) - calculations are for a three year period

(*) - calculations are for Davidson county only

model also shows a greater competitive advantage within the entire Nashville MSA area than in Davidson county alone.

Though these models show an overall comparative advantage within the Nashville area, it is far more practical to separate the model into smaller parts to determine if the advantage is dominant throughout the sample time-frame.

The first separation is made from 1948 to 1965, the period consisting of only Davidson county (see Table 19). The competitive advantage of Davidson county is very strong in this period. Though nationally printing and publishing grows at a rate below the national growth-rate for all industries, printing and publishing within Davidson county grows substantially above the national growth-rate for all industries. One explanation may be that this period coincides with the growth in religious affiliations following World War II.

The second separation is from 1965 to 1974, in which the

TABLE 19 =====

SHIFT-SHARE ANALYSIS
Davidson County

YEAR	<u>1948 to 1965</u>		NATIONAL SHARE	INDUSTRIAL MIX	COMPETITIVE POSITION
	EMPLOYMENT	CHANGE			
1948	2611				
(C) 1951	2695	84	167.5	13.0	-96.4
(B) 1953	2707	12	384.3	-318.0	-54.3
(C) 1956	3206	499	-164.1	320.8	342.4
(C) 1959	6054	2848	96.3	17.1	2734.6
(C) 1962	6789	735	230.9	98.5	405.7
(B) 1964	6335	-454	338.7	-179.7	-613.0
Total:		3724	1053.6	-48.4	2719.0
(B) - two year period			(C) - three year period		

TABLE 20 =====

SHIFT-SHARE ANALYSIS

Nashville MSA - Davidson County

1965 to 1968	Nashville MSA	Davidson County
National Share	990.5	985.5
Industrial Mix	-256.8	-255.7
Competitive Advantage	457.5	440.2
Total Change	1191	1170

Nashville MSA region consists of Davidson, Sumner, and Wilson counties. This period is broken into two subsets in which there is a clear shift in Nashville's competitive advantage.

The first set, from 1965 to 1968, shows a continuation of Nashville's advantage over other regions within the United States (see Table 20). Growth patterns within the regions of Davidson county and Nashville MSA are closely related.

The second set, from 1968 to 1974, shows a decline in the two regions' competitive advantage (see Table 21). Not only is the national growth-rate for the printing and publishing sector below the national growth-rate for all industries, the growth-rate for printing and publishing within the Nashville area is below the national growth-rate for all printing and publishing industries. Like the

TABLE 21 =====

SHIFT-SHARE ANALYSIS

Nashville MSA - Davidson County

1968 to 1974	Nashville MSA	Davidson County
National Share	1140.6	1136.0
Industrial Mix	-700.5	-696.6
Competitive Advantage	-506.2	-520.4
Total Change	-66	-81

previous model, both regions show similar patterns.

The third separation occurs from 1974 to 1989 and depicts the period after the Nashville MSA region expanded to include Cheatham, Dickson, Robertson, Rutherford, and Williamson counties. This period is broken into three subsets.

The first set is from 1974 to 1978 (see Table 22). This set shows a rebound in the areas' comparative advantage even though the national growth-rate for printing and publishing industries is below the national growth-rate for all industries. Furthermore, even though the national share and industrial mix is similar for both regions, there is a clear separation in competitive advantage. It is much higher in the Nashville MSA region than in Davidson county. One explanation for this is the migration of industries from urban areas (such as Nashville) to the outlying rural areas.

The second set is for the period of 1978 to 1984 (see Table 23). What makes this period substantially different from the others is the loss in competitive position even though printing and publishing grows nationally at a rate higher than the national growth-rate for all industries.

TABLE 22 =====
SHIFT-SHARE ANALYSIS
Nashville MSA - Davidson County

1974 to 1978	Nashville MSA	Davidson County
National Share	511.6	465.7
Industrial Mix	-209.1	-199.9
Competitive Advantage	2008.5	1336.2
Total Change	2311	1602

TABLE 23 =====

SHIFT-SHARE ANALYSIS
Nashville MSA - Davidson County

1978 to 1984	Nashville MSA	Davidson County
National Share	1236.1	1087.8
Industrial Mix	132.7	133.6
Competitive Advantage	-1848.8	-1491.5
Total Change	-480	-270

This is an indication that printing and publishing industries are growing in other areas of the country because of factors not found in the Nashville area.

The third set consists of the period from 1984 to 1989 (see Table 24). Within this period the Nashville region regains its competitive advantage and recoups some of the losses incurred in the previous observation. Like the period from 1974 to 1978, there is a greater competitive advantage in the Nashville MSA region than in Davidson county alone.

Except for the two periods of 1968 to 1974 and 1978 to 1984, Nashville has shown a considerable competitive advantage for printing and publishing industries since World War II (see Table 25). As indicated earlier, this is very important for any economic region since it opens

TABLE 24 =====

SHIFT-SHARE ANALYSIS
Nashville MSA - Davidson County

1984 to 1989	Nashville MSA	Davidson County
National Share	2637.9	2308.5
Industrial Mix	-558.9	-470.5
Competitive Advantage	1609.0	619.0
Total Change	3688	2457

TABLE 25

SHIFT-SHARE ANALYSIS
Nashville MSA - Davidson County

	<u>NATIONAL SHARE</u>		<u>INDUSTRIAL MIX</u>		<u>COMPETITIVE POSITION</u>	
	MSA - Davidson		MSA - Davidson		MSA - Davidson	
1948 - 1965	1053.6		-48.4		2719.0	
1965 - 1968	990.5	985.5	-256.8	-255.7	457.5	440.2
1968 - 1974	1140.6	1136.0	-700.5	-696.6	-506.2	-520.4
1974 - 1978	511.6	465.7	-209.1	-199.9	2008.5	1336.2
1978 - 1984	1236.1	1087.8	132.7	133.6	-1848.8	-1491.5
1984 - 1989	2637.9	2308.5	-558.9	-470.5	1609.0	619.0
Total	7570.3	7037.2	-1641.0	-1537.6	4439.0	3102.5

opportunities for growth and development, which ultimately lead to job creation and stability.

One indication of the magnitude of the benefits that can be gained by having a competitive advantage in attracting printing and publishing establishments to a particular region can be found in *Regional Multipliers: A User Handbook For The Regional Input-Output Modeling System (RIMS II)*. This handbook, compiled by the U.S. Department of Commerce, gives a listing of each industry's multipliers for each individual state. The 1992 multipliers for printing and publishing for the state of Tennessee are given in Table 26.

The regional multipliers for printing and publishing for

TABLE 26

1992 REGIONAL MULTIPLIERS
PRINTING and PUBLISHING
Tennessee

<u>FINAL-DEMAND MULTIPLIERS</u>			<u>DIRECT-EFFECT MULTIPLIERS</u>	
Output (Dollars)	Earnings (Dollars)	Employment (Jobs)	Earnings (Dollars)	Employment (Jobs)
2.2903	.6753	32.2	2.1825	2.2512

the state of Tennessee are interpreted as follows:

Final-Demand (Output) - for each additional dollar of output delivered to final demand by printing and publishing industries within the state of Tennessee, there is a \$2.29 total increase in output for all industries;

Final-Demand (Earnings) - for each additional dollar of output delivered to final demand by printing and publishing industries within the state of Tennessee, there is a \$.6753 total increase in earnings of households employed by all industries;

Final-Demand (Number of Jobs) - for each additional \$1 million of output delivered to final demand by printing and publishing industries within the state of Tennessee, there is a total increase of 32.2 jobs for all industries;

Direct-Effect (Earnings) - for each additional dollar of earnings paid directly to households employed by printing and publishing industries within the state of Tennessee, there is a \$2.18 total increase in earnings of households employed by all industries;

Direct-Effect (Number of Jobs) - for each additional job created by printing and publishing industries within the state of Tennessee, there is a total increase of 2.25 jobs for all industries.

A comparison of the 1986 and 1992 multipliers (see Table 27) shows a decrease from 1986 to 1992 in the multiplier effect of final-demand output on earnings and number of jobs (direct-effect multipliers were not given for 1986).

TABLE 27 =====
REGIONAL MULTIPLIERS
PRINTING and PUBLISHING
1986 - 1992
Tennessee

YEAR	<u>FINAL-DEMAND MULTIPLIERS</u>		
	Output (Dollars)	Earnings (Dollars)	Employment (Jobs)
1986	2.3166	.7234	44.0
1992	2.2903	.6753	32.2

Nevertheless, the effects of the printing and publishing industries within Tennessee's economy are still substantial. The 1992 multiplier for final-demand earnings (.6753) ranks second out of the seventeen industries classified under *manufacturing*, while the final-demand employment (32.2) and output (2.2903) multipliers rank fifth.

Since data is not available for the value of shipments within the Nashville MSA area for 1992 or 1986, figures for 1987 and 1977 are used in conjunction with the 1986 regional multipliers to determine the effects that these shipments have upon the region. According to the 1987 *Census of Manufactures*, the value of shipments for printing and publishing in the Nashville MSA region for 1987 is \$1,147.7 million. The 1977 *Census of Manufactures* values printing and publishing shipments for that year at \$336.5 million. The average annual change from 1977 to 1987 is \$81.1 million. Assuming that the change in the value of shipments from 1987 to 1988 is the same as the annual average for the calculated period, and the Nashville MSA region has similar

characteristics as those of Tennessee, the multiplier effect of a change in the value of shipments of \$81.1 million should be as follows: a total increase in output for all industries of \$187.9 million; a total increase in earnings for households employed in all industries of \$58.7 million; and a total increase of 3,601 jobs for all industries.

By using the 1992 direct-effect multipliers along with data from the 1988 and 1989 *County Business Patterns - Tennessee*, one can determine the effects of the changes in employment and payroll from 1988 to 1989. The Nashville MSA first-quarter payroll increases by \$3,320,000 from \$70,567,000 to \$73,887,000. Employment increases by 392 employees from 12,912 to 13,304. Assuming that the Nashville MSA region has similar characteristics as those of Tennessee, the direct-effect of an increase in first-quarter payroll of \$3,320,000 and employment of 392 should be as follows: a total increase in earnings for households employed in all industries of \$7,245,900; and a total increase of 882 jobs for all industries.

Overall, the value of shipments for 1987 of \$1,147.7 million accounts for \$2,658.76 million of output, \$830.25 million in earnings, and 50,499 jobs for all industries in Tennessee. Likewise, the 1989 Nashville MSA first-quarter payroll of \$73,887,000 and employment of 13,304 are directly responsible for \$161,258,000 in earnings and 29,950 jobs for all industries in Tennessee.

Another tool that economists use to determine the impact

that an industry can have upon an economic region is location quotients. Location quotients can be calculated using an area's employment figures (see Table 28). If the value of the location quotient is equal or near one, then production in industry *i* within the region is satisfying local demand only. A value greater than one indicates goods from industry *i* produced within the region exceed local demand and are being exported. A value less than one indicates goods from industry *i* produced within the region do not satisfy local demand and are being imported into the area. Once the quotients are computed, they can be used to determine a region's export employment base. With this information, an assessment can be made of an industry's ability to bring in revenue from outside areas.

TABLE 28 =====

LOCATION QUOTIENTS
FORMULA

$$\text{Location Quotient (LQ}_i\text{)} = (E_i/E_t)/(US_i/US_t)$$

$$\text{Export Labor (EL}_i\text{)} = E_t(US_i/US_t)(LQ_i - 1)$$

US_t = total national employment

US_i = national employment for *ith* industry

E_t = total regional employment

E_i = regional employment for *ith* industry

Calculations derived by using location quotients must be prefaced with three assumptions. First, the patterns of consumption do not vary geographically. Second, labor productivity does not vary geographically. Third, each industry produces a single, perfectly homogeneous good. (Heilburn, 141-2).

Employment data in Table 12 is used to calculate the annual location quotients for the Nashville MSA and Davidson county regions from 1948 to 1989 (see Table 29, Figure 9). Each observation is well above one, indicating that the goods and services produced by printing and publishing establishments within the sample regions consistently exceed

TABLE 29 =====

LOCATION QUOTIENTS
Nashville MSA - Davidson County

YEAR	LOCATION QUOTIENT		EXPORT EMPLOYMENT		PERCENT OF PRINT EMPLOYMENT	
	MSA	COUNTY	MSA	COUNTY	MSA	COUNTY
1948	1.51		887		33.96%	
1951	1.41		785		29.14%	
1953	1.56		973		35.95%	
1956	1.57		1164		36.31%	
1959	2.53		3658		60.42%	
1962	2.69		4261		62.76%	
1964	2.16	2.35	3416	3643	53.70%	57.50%
1965	2.24	2.44	3789	4025	55.35%	59.07%
1966	2.15	2.33	3780	4011	53.50%	57.12%
1967	2.21	2.39	4140	4367	54.81%	58.19%
1968	2.16	2.34	4022	4263	53.69%	57.31%
1969	1.99	2.17	3593	3851	49.84%	53.81%
1970	1.97	2.13	3590	3825	49.32%	53.12%
1971	2.06	2.23	3822	4079	51.37%	55.24%
1972	1.97	2.15	3589	3865	49.26%	53.52%
1973	1.71	2.09	3242	3875	41.65%	52.19%
1974	1.74	2.19	3536	4350	42.61%	54.27%
1975	1.79	2.20	3597	4230	44.27%	54.53%
1976	1.91	2.25	4267	4471	47.73%	55.48%
1977	2.07	2.42	5208	5291	51.58%	58.62%
1978	2.00	2.32	5259	5247	50.11%	56.95%
1979	1.93	2.37	5138	5687	48.32%	57.83%
1980	1.92	2.35	4999	5507	47.84%	57.43%
1981	1.78	2.17	4315	4864	43.92%	54.02%
1982	1.97	2.47	5440	6057	49.34%	59.45%
1983	1.70	2.10	3975	4577	41.33%	52.27%
1984	1.73	2.17	4523	5317	42.25%	54.02%
1985	1.71	2.15	4725	5563	41.61%	53.58%
1986	1.82	2.11	5845	5750	45.03%	52.58%
1987	1.69	1.95	5139	5063	40.92%	48.71%
1988	1.69	1.95	5275	5190	40.86%	48.68%
1989	1.73	2.06	5626	5768	42.29%	51.44%

FIGURE 9
PRINTING and PUBLISHING
LOCATION QUOTIENTS

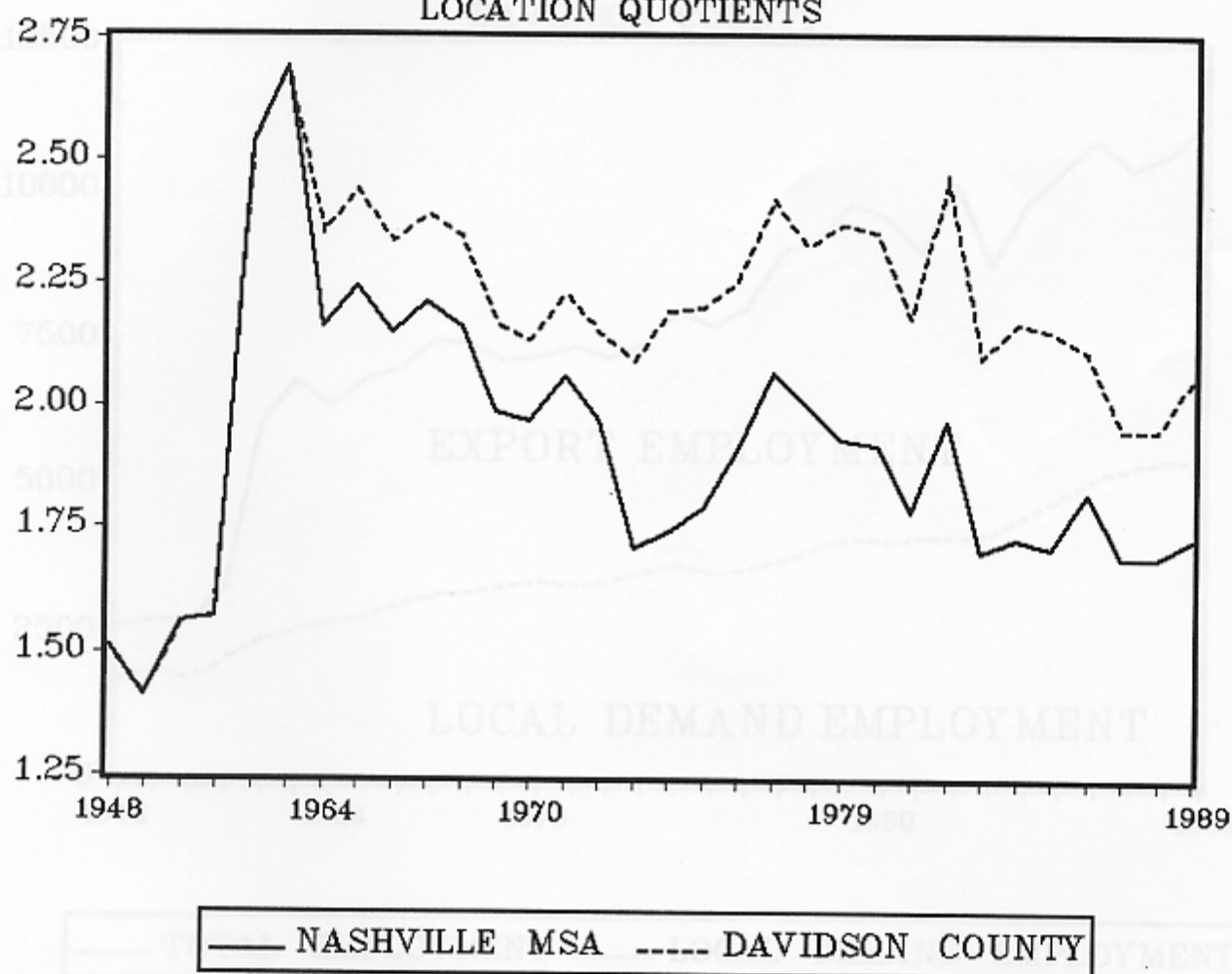


FIGURE 10
PRINTING and PUBLISHING EMPLOYMENT
DAVIDSON COUNTY

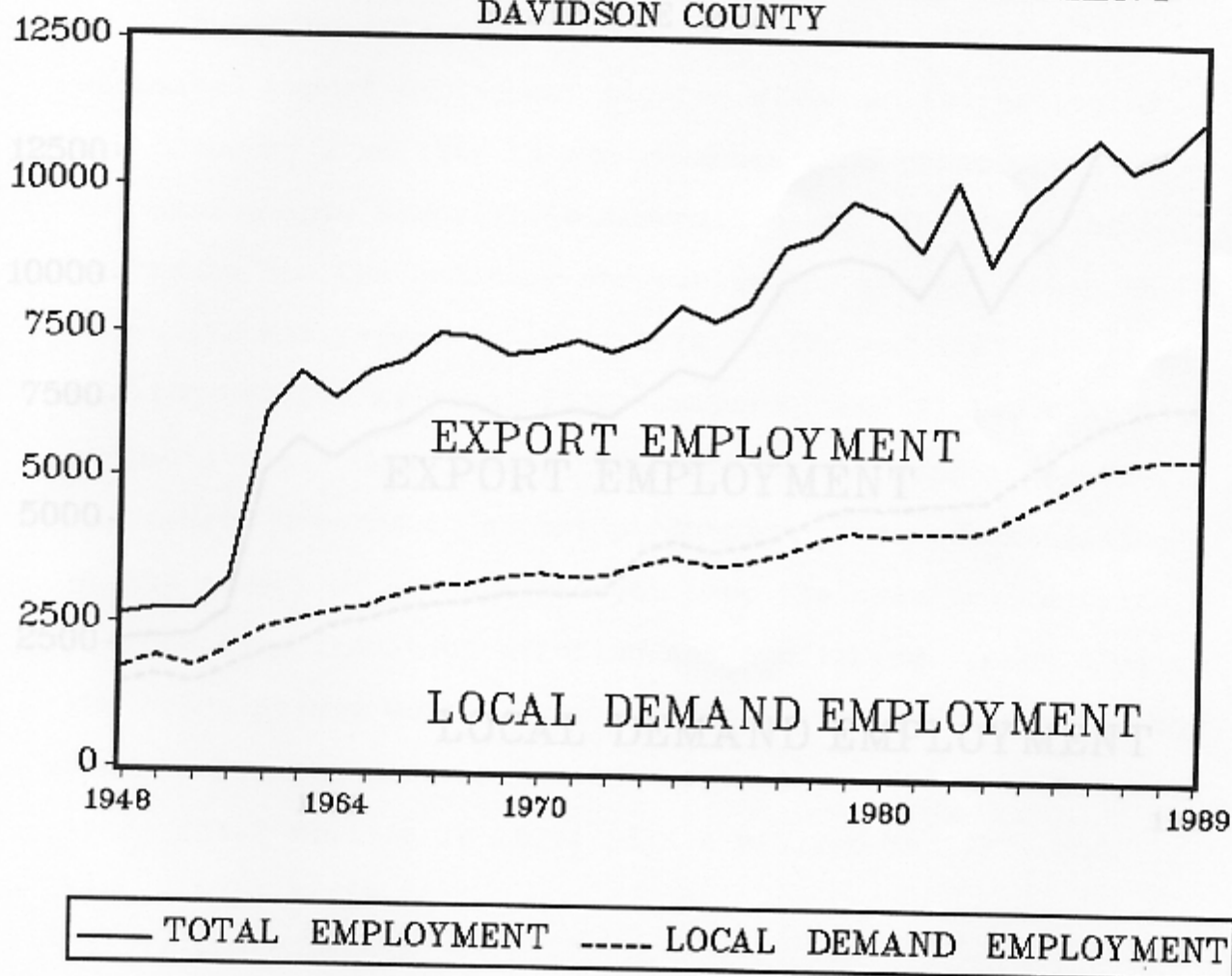
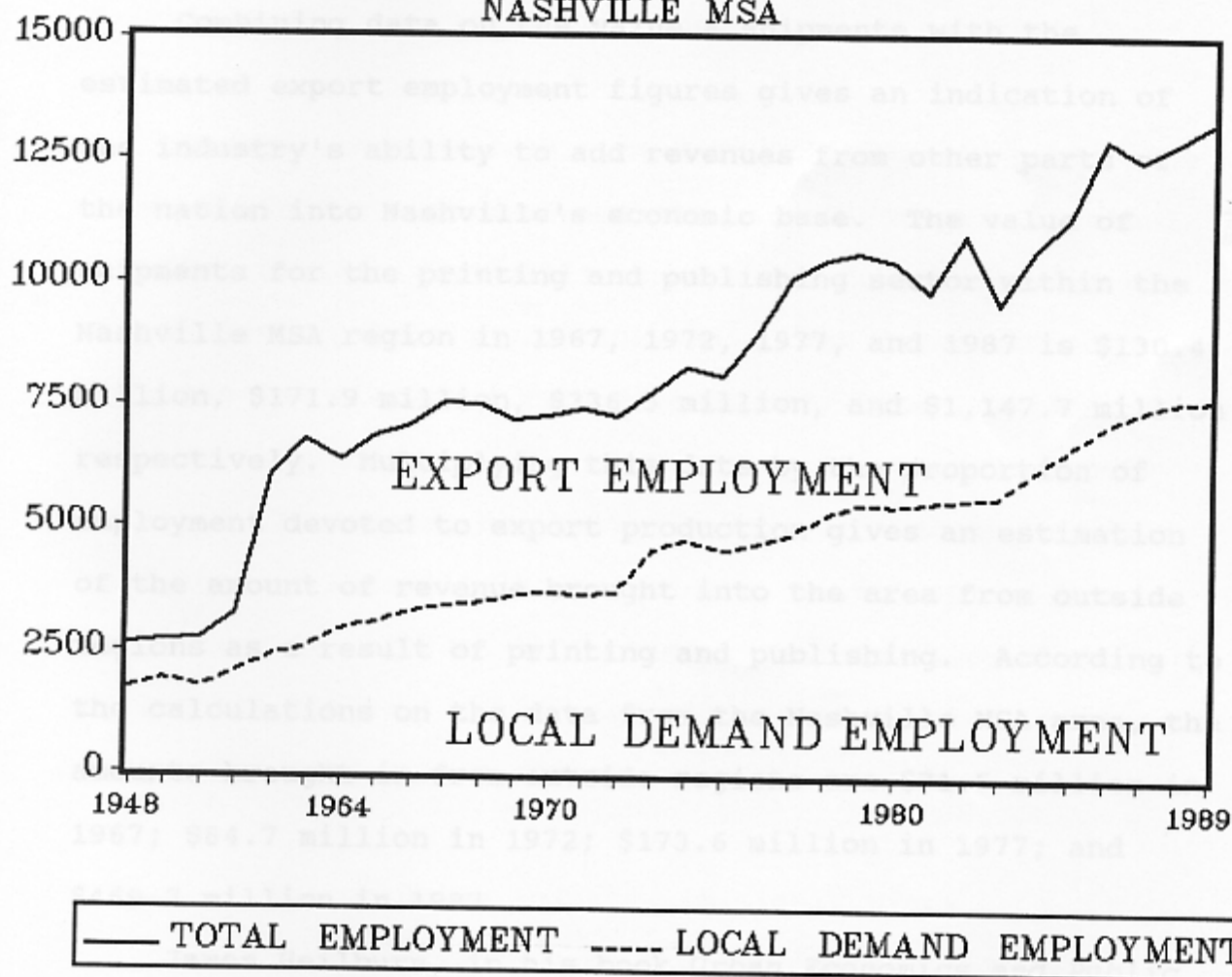


FIGURE 11
PRINTING and PUBLISHING EMPLOYMENT
NASHVILLE MSA



local demand. Once the quotient is calculated, the estimation is used to determine the amount of labor devoted to export production, which is then given a proportional value. The data indicate that export employment reaches a peak in the early part of the 1960s, but remains fairly stable throughout the model's time-frame (see Figures 10 & 11).

Combining data on the value of shipments with the estimated export employment figures gives an indication of the industry's ability to add revenues from other parts of the nation into Nashville's economic base. The value of shipments for the printing and publishing sector within the Nashville MSA region in 1967, 1972, 1977, and 1987 is \$130.4 million, \$171.9 million, \$336.5 million, and \$1,147.7 million respectively. Multiplying this data by the proportion of employment devoted to export production gives an estimation of the amount of revenue brought into the area from outside regions as a result of printing and publishing. According to the calculations on the data from the Nashville MSA area, the amounts brought in from outside regions are \$71.5 million in 1967; \$84.7 million in 1972; \$173.6 million in 1977; and \$469.7 million in 1987.

James Heilburn, in his book *Urban Economics and Public Policy*, warns that "the amount of export employment arrived at by the location quotient method is systematically biased downward" (143). This bias is largely due to the unrealistic assumptions that must be made. For example, it is highly

unlikely that goods and services produced within a particular industrial sector are homogeneous throughout the nation as the third assumption states. This is especially true in an industry such as printing and publishing where the entire production of one particular magazine or book is usually confined to one region. Therefore, it is safe to assume that the derived figures for export employment within the Nashville area are lower than the actual export employment base. *but our business relies heavily on the stability*

Overall, Nashville's appeal to printing and publishing lies within its most dominant natural advantage: location. As noted earlier, Nashville is within a day's drive of half the nation's population (Esler, 63). The importance of location was discussed with Mike Osesek, Vice-President of R. R. Donnelley and Sons and the Division Director for their Gallatin, Tennessee, manufacturing plant. Though Donnelley uses some of Nashville's preliminary, distribution, and publishing facilities, it is the central location that influenced the world's largest commercial printer to move to the region. As Osesek stated,

The printing industry is highly time-sensitive. Clients want their products produced quickly, at the lowest possible cost, without jeopardizing quality. Much of the material we handle is dated and must reach distribution points at specific times. Since print is expensive to

historically, Nashville's printing industry is closely linked with the city's government and the state's publishing industry. The high concentration of religious affiliations gave support to its religious

store, production must be coordinated to minimize this cost. This is why Donnelley chose the Nashville area for one of its divisions. It's centrally located, which minimizes distribution cost, and has a large pool of skilled labor.

At this time the industry is facing mature markets that have been affected negatively by recent economic events. This affects us also in that our business relies heavily on the stability of its customers. Our clients are looking for ways to lower costs. Our best areas for cost cutting are the frontend and backend. If we can help a customer get his job to press and distributed quickly, he's going to save time and money.

All of these factors make Nashville's central location important to the success of any firm that deals in print. If I were in the printing industry and looking to locate or expand my business, Nashville would definitely be one of the top choices on my list.

Conclusion

Historically, Nashville's development is closely linked with printing and publishing. Its early prominence as a state capital stimulated the growth of newspapers and the publication of government documents. Its high concentration of religious affiliations gave support to its religious

printing sector. Its expansion as a transportation hub for the nation has given permanence to its entire industrial base.

The link is further illustrated by empirical evidence. Nashville's concentration of printing and publishing establishments is twice the national average. Its average employment for the sector is twice that of the nation. Its annual ratios for percentage of employment in printing and publishing to all industries are also twice as high as those for the nation. As shift-share analysis demonstrates, these high concentrations are not accidental; Nashville has definite competitive advantages over other regions within the United States for printing and publishing.

These advantages have given Nashville a basis for economic stability. Shipments from printing and publishing establishments have stimulated the output, earnings, and employment of all of its industries. Likewise, the employment (and subsequent wages) within Nashville's printing and publishing industries has had a significantly direct effect upon all other industries within Tennessee. The economic stimulus attributed to printing and publishing is further enhanced by its ability to intensify Nashville's export base.

Since John McLaughlin established its first newspaper in February of 1799, Nashville has grown into a major center for music and print. Like the many people seeking fame and fortune on the stage of the Grand Ole Opry, printers and publishers have located in the city to take advantage of its

centralized location, skilled labor, and well-developed printing support sector. This has enriched Nashville's well-being by stimulating its job market, expanding its export base, and stabilizing its economy. If historical and empirical evidence are reliable guides, printing and publishing will continue to be a dominant force in the economic stability of Nashville for many years to come.

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